The Builder.

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ILLUSTRATIONS.

First Premiated Design for large Palace for the Paris Exhibition of 1900.—M. Louvet, Architect ..... *Double-Page Tone Blocks.*
First Premiated Design for Smaller Palace for the Paris Exhibition of 1900.—M. Girault, Architect ..... *Double-Page Tone Block.*
Competition Design for Technical Institute and Public Library for West Ham.—By Mr. J. M. Brydon, F.R.I.B.A. ..... *Double-Page Photo-Litho.*
"The Biggins," Kirkby Lonsdale.—The late N. Verity and Mr. W. E. V. Crompton, A.R.I.B.A., Architects ..... *Double-Page Ink-Photo.*
New Chapel and Additions to Schools, "Springfield," East Grinstead.—Mr A. E. Street, F.R.I.B.A., Architect ..... *Single-Page Ink-Photo.*
Interior of Chapel, "Springfield," East Grinstead.—Mr. A. E. Street, F.R.I.B.A., Architect ..... *Single-Page Ink-Photo.*

Block in Text.

Plan, West Ham Public Library and Technical Institute ..... Page 100

CONTENTS.

Among Dykes and Deserted Churches 97	Architectural Societies 99	Obituary 103
Notes 91	Designs for Palaces for the Paris Exhibition of 1900 100	General Building News 103
The Royal Archæological Institute at Canterbury 93	Competition Design for Technical Institute, West Ham 100	Sanitary and Engineering News 104
Students' Drawings at South Kensington 94	The Biggins, Kirkby Lonsdale 100	Foreign 104
British Institute of Public Health 95	"Springfield," East Grinstead 100	Miscellaneous 105
The Royal Institute of British Architects 97	Competitions 100	Legal 106
The London County Council 97	Archæological Societies 102	Capital and Labour 106
Builders' Benevolent Institution 98	The Construction of Hospitals and Infirmaries 102	Recent Patents 106
Applications under the 1894 Building Act 98	Exeter Church Competition 102	Some Recent Sales 107
Engineering Trades' Report 99	Student's Column: Rural Drainage. V. 102	Tenders 109

Among Dykes and Deserted Churches.

IT is rumoured that the little "light" railway, with its old-fashioned omnibus carriages, which jogtrots the visitor over the nine miles between Halesworth junction and Southwold, is to be disestablished to make way for a full-gauge branch line. This would be a pity. The inconvenience of changing carriages at Halesworth is not great; the sense of seclusion, of being out of the world, which is fostered by the change on to the miniature railway with its miniature engine and its sleepy little stations, is, from a holiday point of view, a distinct gain.

Southwold, as its picturesque name implies, stands on a slightly rising wold or down, which in fact would hardly be considered an elevation but for the extremely flat character of the land on each side of it, over which one would think that the sea had once been, and would some day be again. Yet oddly enough, as we shall have occasion to notice in perambulating the neighbourhood, the encroachments of the sea on this part of the Suffolk coast seem rather to take effect on the high than on the low land.

The railway in approaching the little town crosses by a swing bridge the so-called river Blythe, by means of which Blythburgh, four miles from the sea, was formerly a kind of port in a small way. But where is the river properly so-called? You may commence walking along its banks from its entry to the sea near Walberswick, half or three-quarters of a mile south of Southwold town, and walk along its margin, first on a low bank, then on artificially-raised banks within which the water, at high tides, must be well above the level of the meadows between which it runs, till you have made a complete circuit around Southwold, and find the "river" end ignominously in a muddy dead-end just within the line of heaped-up shingle on the north beach. In fact, but for that line of shingle, Southwold is on an island, as it was actually described to be in a letter by William Waynfleet under date July 1666: "Southwold being an island environed with salt water, might be made the strongest in these parts. . . . . It is the nearest town in England to Holland, and the best bay." There is no semblance of a "bay" now; the line of the shore is, if anything, convex rather than concave; such changes has the restless sea wrought on the coast-line. The rampart of shingle behind the north beach, which is the only interruption to the encircling girdle of water, may be of comparatively modern formation; it is only one example of what has been going on for centuries along the coast.

As approached by rail across the moor, Southwold has a picturesque appearance; a long level little town, the outline of which is diversified by the three vertical lines of the water tower, the church tower, and the light-house. Inside the town this promise is hardly fulfilled. There are few if any aboriginal buildings left, and the architecture both of the High-street and the sea front is for the most part commonplace to a degree. The High-street, however, contains one fine Georgian brick house, with moulded brick cornice and pilasters, symmetrical rows of windows with brick quoins and with the peculiarity of having wooden keystones, and in the centre a pedimented entrance door with deep reveals panelled in wood. This is a very good piece of domestic architecture of its class. Towards the south end of the town there is a really picturesque effect to be seen, on the broad irregular green bordered by houses which slopes down towards the flat meadows beyond; not that there is anything picturesque in the buildings themselves, but the whole, seen together, and overlooking details, is a charming picture. On the sea front, too, the sloping shingle beach crowded with fishing and pleasure craft drawn up side by side, and backed by the row of irregularly shaped stores and net-houses of tarred planking, has a peculiar and almost unique effect. South of the town the piled shingle beach forms a barrier between the sea and a flat strip which is a kind of "no man's land," a waste place apparently on a level with the sea (though it is not quite so low really), backed by the same kind of terrace of tarred plank erections as those in front of the town; a dreary-looking scene, on a dull day especially, and yet not without a character of its own. The north end of the town, too, looks dreary enough at present, being in a half-formed process of building, with new streets of small houses running out on to waste land, on one portion of which is a long row of "tippings" of miscellaneous rubbish, far too close to the town in a sanitary sense. Southwold suffered by a great fire on April 25, 1659, and it has been suggested, not improbably, that it was the portion north of the church which had chiefly suffered, and had never been rebuilt; the church at present standing nearly to the north, and not in the centre of the existing town.

There can hardly be a finer air or a more splendid expanse of sky and stretch of distance to be met with anywhere than one finds on walking westward along the moor behind Southwold; and the scene is not materially injured by the presence of the large circular water-pumping tower with its wind-engine fan turning aloft against the sky; the structure might have been more picturesquely treated—we are sadly behind the Americans in giving effect to erections of this kind—but the mere projection of the timber jacketing round the reservoir at the top, corbelled boldly out and faced with red tiles, gives a certain element of picturesqueness to the whole. This pumping-tower supplies Southwold with water in perhaps the cheapest way that could be devised, when first cost has been got over; a gas-engine, however, has to be employed as a stand-by for periods of prolonged calm. Rambles about the other environs of Southwold do not produce so satisfactory an impression. On each side of the town, below the higher ground, are tracts of very low land intersected by straight ditches or canals flanked by high dykes, along the top of which are footpaths, so that strollers on the outskirts of the town are seen as if walking on the top of walls with their figures relieved against the sky, a peculiar and characteristic local effect. But from a sanitary point of view this portion of the outskirts leaves much to be desired. The artificial ditches smell very badly in places; more especially at one point close to the town, opposite the old saltworks, there is a smell from the wide ditch "fit to knock one down," as the phrase goes; a serious nuisance which ought to be mitigated without delay. A drain-pipe which is seen entering the Blythe Creek across the fields to north-west of the town is we presume an "effluent" pipe, but

as to how the sewage is treated we have not so far been able to obtain information.* There is a flow of water from a pipe at the end of the abandoned timber jetty in front of the town, which looks suspiciously like drainage, and if so, ought not to be discharging there. But the condition of the numerous ditches on the levels around the town seems the most important sanitary defect of all.

One of the greatest advantages of Southwold arises from the steep section of its shingle beach, which keeps the water deep almost close to the margin; there is no "low tide" with the sea disappearing in the distance over a flat expanse of sand; the tide only recedes a few feet horizontally, and the sea is always close up to the houses. It may be added that nothing can be better than the provision for bathing; the vans are large well-constructed vehicles, let down by chain and windlass almost at once into deep water; they are kept scrupulously clean, and our friends of the "Society for Checking the Abuses of Public Advertising" will be glad to hear that no advertisement of any kind is allowed on them, inside or out; an example one may well wish to see followed at other watering-places.

Southwold Church is well known to architects, and illustrations from it have appeared in our own pages. It is a typical Suffolk church, with its painted chancel-screen, and its profusion of decorative flint work on the exterior; it is fortunately in very good preservation, and the tower, which is a fine one, shows well from whatever point it is seen from. The church contains a curiosity in the shape of an old carved figure of a man in armour which strikes, or used to strike the hours on a bell: it has been removed from its old position at the west end and fixed in the ancient rood doorway in the north aisle: there is a figure of the same kind, rather smaller, at Blythburgh Church, also moved from its original position and placed on a screen between nave and south aisle. In spite of the generally fine appearance of Southwold Church, however, it is hardly so interesting as some that are not so well preserved. Blythburgh Church, four miles off—in a sadly decaying condition and with a good many of its windows bricked up, is nevertheless far better worth a visit. This was the site of a church in the Saxon period; the present building is no doubt at least the third church on the site; it dates from about 1453—73. In its original state it must have been one of the richest and most gorgeously furnished fifteenth century church interiors to be found anywhere in the country. The nave has a low-pitched open roof, once elaborately painted and decorated with large figures of angels with outspread wings, somewhat after the manner of the earlier and more famous roof of Knapton, in Norfolk; some two or three of these still remain. The angles of the principal rafters and braces were filled in with perforated spandrel pieces similar to those at Trunch; a few of these remain, with a good many modern restorations. The church has a profusion of fine perpendicular windows, the clearstory being so lavishly pierced with windows that in fact the piers seem hardly adequate to carry the roof-principals. Several windows are bricked up, from what motive it is difficult to understand; it may be that the tracery needed repair, and it was thought cheaper to get rid of it for good and all. The windows were doubtless all filled with stained glass; some small portions of the original glass are collected in a window in the south aisle. Suckling, in his history of Suffolk, mentions the bequest of one John Aleyn, in 1462, of 40s. "towards glazing a window in the new chancel of Blyborough on the south side"; this is probably the south chancel window which is now bricked up. The bench ends are adorned with peculiarly curious and interesting carved finials, consisting of figures representing, not Christian virtues, but various vices, including the favourite mediæval subject of the Seven Deadly Sins; one of these, which has been broken away long ago, no doubt represented one of the Sins which some post-Reformation priest excusably considered hardly suitable for illustration in a church. There is a great deal of spirit and humour in some of these carved figures. A portion of the screen of the oratory of St. Anne at the end of the north aisle is left, the whitewash was cleaned off it only a year or two ago. Externally there is a splendid rich parapet along the top of the south aisle, and some fine carved heads on the clearstory. A peculiarity in the external architecture is that both the small doors into the chancel (north and south sides) are formed behind a buttress, which is arched over in flying-buttress fashion to clear them. The church contains an unusual curiosity in the shape of a mediæval poor-box, an upright oblong box treated architecturally with arcading and panelling; this has unfortunately been disfigured by modern painted decoration of a most unsuitable character. Suckling gives the remarkable inventory of vestments, &c., originally belonging to the church, showing on how rich a scale it was endowed; and subsequently gives the melancholy list of the trumpery sums for which one thing after another was sold after the Reformation. The only respectable sum in the list is 10*l.* for the church plate, but this was probably a very valuable collection; it was sold (in 1549) to one of the Hoptons, lords of the manor. Among other items we read that in 1582 the organ-case was sold for 8s., and further on we read (1576) "paid to Hurman when he took the clock and chimes, 11d." The present condition of the church is melancholy enough; it is slowly going to pieces for want of funds to keep it even in decent repair. It has the merit of being almost unrestored except in a few minor details, and long may it remain so; but it is to be wished that funds could be raised to prevent it falling into further decay. As it is, one or two of the roof principals seem to be entirely rotten in places.

Blythburgh Church, however, is at all events not yet a ruin, but within an easy walk around Southwold one can come upon several large ruined and deserted churches, a peculiar and melancholy feature of the neighbourhood. Crossing the "no man's land" south of the town we come to the outfall of Blythe creek or river, with its old disused timber wharf, and, higher up, to the ferry over to Walberswick, one of those large travelling ferry stages worked with a chain and windlass, peculiar to the district, and which have afforded occupation to more than one well-known painter. Walberswick is supposed to be a kind of painters' paradise, though it is not exactly easy to see why, except that it lends itself to a taste for flat scenes and large expanses of sky which has become rather prevalent in recent landscape-painting. A small timber bridge over an arm of the creek, labelled "dangerous," is the most picturesque object visible on the further bank, where the scene generally is rather desolate; but Walberswick has a pretty little village green further inland, and beyond it the church, the remains of a large fifteenth-century building, of which the fine flint-built tower is alone perfect, the rest being roofless and with little remains of either piers or tracery. The church replaced an older and smaller one which had stood on another site, and is perhaps a little later than that at Southwold. Its building marked the time no doubt of the greatest prosperity of Walberswick, which was a small seaport with a trade of its own; a trade which increased as that of Dunwich decreased. It was a shortlived prosperity, for in 1628 the town was in such a state of poverty that the magistrates, in that naïvely high-handed manner which sometimes characterised the proceedings of municipal authorities in past days, granted a warrant for levying contributions from persons living in the vicinity, for the support and maintenance of the town. This was perhaps only a crude form of rating, but it reads oddly. In 1695 the church was in so dilapidated a state that the inhabitants, by some kind of authority, sold the materials of the roofs and of the north aisle with the view of obtaining funds to put the south aisle in repair as a separate church, in which condition it now forms the "practicable" Walberswick church, a corner slice out of the ancient church, the two together forming a kind of emblem of the comparative past and present prosperity of the place, which, from a busy market and port, has lapsed into silent spaces of decay, where, as a last-century poet unkindly expressed it:—

> "The hireling artist plants his paltry desk,
> And makes degraded nature picturesque."

But to appreciate fully the contrast betwen past and present one must read the past history of Dunwich, and walk the three or four miles southward to the village and ruined church now bearing that name. The shortest way from Walberswick as the crow (or rather the seagull) flies would be over the flat land between the inland country and the rampart of the shingle, but the labyrinth of ditches is inextricable, and one must take the curve of the shingle beach. The present Dunwich presents a few booths and other temporary-looking erections on the shore, a small but neat village street a little way inland, and the ruin of a large church on the highest part of the cliff and close to the edge of it. It is difficult to realise that where we stand at the east end of this church we should have seen in the thirteenth century a large promontory stretching out before us into the sea, occupied by the largest and most important town in Suffolk,* with several large churches, of which the ruined one at our back was the smallest and least important. It was a saying that "the tailors sat in their shops at Dunwich and saw the

* We failed to find the "Sanitary Authority" at home, and a written request for information has elicited no response.

* Dunwich was rated at £133 in "aid" of the marriage of Princess Maud, Henry II.'s daughter, whereas Ipswich was only rated at £53.

ships in Yarmouth Bay"; but Yarmouth Bay, as a glance at the map will show, is quite out of sight from Dunwich now. Of all the flourishing city and its site nothing is left but this one church, and the shoal dotted in the maps as "Dunwich Bank." In 1328 the entrance to the port was choked by a storm; in the account in the British Museum, "An Attempt to ascertain the former extent of Dunwich," under date 1573, it is stated that "the parish church of St. Felix was many years ago taken and drowned in the sea." In 1677 the sea had reached the market place. In 1754 divine service was performed for the last time in the now ruined church of All Saints, the last surviving relic of the town. As in most of the other cases, the church tower is pretty nearly complete, the church is a roofless ruin with gaping window spaces. It consisted originally of a nave and north aisle, a south aisle was added early in the sixteenth century, while the north aisle was pulled down "by faculty" in 1725. Two or three bays of the arcade remain, and the piers have been propped by buttresses of red brick, which, in a pictorial point of view, combine charmingly with the stone piers. Within the fence of an inhospitably bottled wall westward of the church are the remains of the Franciscan convent founded towards the end of the thirteenth century, inaccessible to close examination; there are two masses of arcaded ivy-grown wall, and on the further or inland side of the boundary a large and small entrance gateway, at a little distance from each other, and of considerably later date. And that is all that is left of the former commercial and ecclesiastical glories of Dunwich.

But the finest of all the deserted churches near Southwold is the little-known one at Covehithe, otherwise called Northales (North-Hales, probably), about as far north of Southwold as Dunwich is south of it. It can be reached most easily by a walk along the cliffs, interrupted by a descent to the beach level half way, where there is the picturesque little "broad" of Easton, a lake only separated from the sea by a ridge of shingle, and the haunt of thousands of seagulls and other wild birds. Covehithe Church stands on high ground a little away from the margin of the cliffs; these, however, as at Dunwich, are being gradually eaten into by the sea, which, as before observed, seems to be more destructive to the higher than to the lower portions of the coast. Here we find the outer walls and the window spaces of what must have been one of the noblest fifteenth century churches in the whole country, remarkable for its ample proportions, its large and lofty windows, and the rich treatment of the lower portion of the walls, below the sills of the windows, with ornamental panelling in dressed flints. The arcades are entirely gone, but the responds at the eastern end show the lofty proportions of the piers and the refined and delicate character of the mouldings. The church had the short wide chancel which is seen in such complete examples as North Walsham, and at the north and south sides were two exceedingly high narrow windows, in two tiers of mullions, shedding a flood of light on the altar from either side, and reminding one of the effect of the lofty windows in a similar position introduced in Truro Cathedral. The plain massive flint tower, which, as in the other deserted churches, is the only portion of the church in good preservation, reminds one again of North Walsham, though at the latter place it is the church which is preserved while the tower is half-ruined, while at Covehithe we have the tower complete and the church in ruins. In the centre of the western portion of the ancient nave is a small thatched church, built in 1672 and continued in use at the present day as the parish church; it is probably built to a great extent of stone taken from the large church, and appears also to have had its own vicissitudes, as the upper portions of the gable and walls have been repaired in more modern times with brick. In the north wall of the ancient church is a tolerably well-preserved rood-loft stair formed in a wide projection of the external wall, against the side of one of the buttresses. The door into the rood loft is still there, and from marks on the opposite (south) wall of the church it is evident that here there was once a magnificent screen stretching all across the width of the church, considerably westward of the architectural chancel. The east window was an immense one, now only a great open space, once filled with towering ranks of mullions and no doubt glorious with stained glass. The landscape about here is more diversified in outline and more picturesque in character than in most other places near Southwold, and the effect of this grand ruin in the midst of the cornfields, meadows, and stretches of woodland around it is something most impressive and not to be readily forgotten. Many who are acquainted with Southwold, Walberswick, and Dunwich do not seem to be aware of the existence so near Southwold of the remains of what must certainly have been the finest church in the district; and no one visiting the neighbourhood should omit to make the pilgrimage to Covehithe.

NOTES.

Fellows of the Institute.

THE subject of the diminution in the proportion of applications for Fellowship of the Institute was discussed at the meeting of members on Monday last, when a good deal of time was wasted in irrelevant speeches partly consisting of vague charges of unprofessional conduct against some un-named Fellows of the Institute, by speakers who appeared to have no facts to bring forward in support of insinuations which, in that case, they ought never to have made. We do not feel called upon to give publicity to any details of the proceedings at a meeting which was technically a "private" one; those directly concerned will read the results in the Institute journal; but we may venture a remark on two points connected with the subject, and which were partly touched upon at the meeting. One is, that we think any proposal to eventually establish a formal examination for election as a Fellow of the Institute, in order to put Fellows on the same ground in this sense as Associates, would be a mistake and would prove a failure. Men who enter for examination as Associates are young men commencing their studies, to whom the preparation for the examination is useful guide in their studies; men who are eligible for election as Fellows are in a different position, and their fitness for election can be judged by their known works and by the examples of their designs which are to be submitted. To ask them to submit to an examination of the same nature as that for Associateship would be setting up a practice which has, we believe, no parallel in any Society of at all a similar nature. The other point is, that all Associates who from their position and standing have become eligible as Fellows ought to apply for election, in order to strengthen the hands of the Institute.

The French School at Rome.

THE Parisian critics have been unanimous this year in their comments on the inferior nature of the work sent home by the students at the Villa Medici, and have asked how it comes to pass that no better work than this is produced as the result of the official system of art-training at the Ecole des Beaux-Arts and at the institution at Rome. Unfortunately the jury themselves seem to be in league to maintain the tradition of respectable mediocrity. Among the ten painters who compete this year, one alone, Mr. P. A. Laurens, has sent in a composition remarkable for style, individuality, and poetic feeling, and it was thought that the prize would be awarded to him as a matter of course. But no; this really fine work has been set aside, and the prize awarded to a commonplace painting by M. Moulin, a pupil of M. Bouguereau. Such a selection is certainly an additional argument on the side of those who have long demanded a thorough reform and reconsideration of the whole system under which the Prix de Rome is competed for and awarded. The prizes in architecture and sculpture are not yet awarded, but will probably be announced next week.

Gathering of German Architects at Berlin.

THE biennial gathering of the architectural and civil engineering societies of Germany will take place at Berlin towards the end of August, and will be preceded, as usual, by a business meeting of the special delegates from the various societies. The agenda paper for this meeting has now been published, and includes some five-and-twenty items of more or less importance. Amongst them we notice that the principles and conditions of competitions among architects will be discussed, and there will also be a debate on the training of students in the practical requirements of their profession. The Registration of architects will also be under discussion, and the scale of fees and charges will be reconsidered. As in the case of last year's meeting, we find a somewhat vague announcement referring to a discussion on the protection of architectural work against the pirating of the Press, and we are interested to know what our German friends propose doing, or where they consider they have a grievance.

Tewkesbury Abbey.

WE are not surprised to find that an appeal is being made for funds for the external repair of Tewkesbury Abbey; but we hope that, if the funds are obtained, they will not be expended in any attempt to restore the exterior in the usual sense of the word. That some portions of the timber roofs need entire renewal, and are in a precarious condition at present, is only what might be

expected; but we should think that the decaying condition of the walls is exaggerated. From our recollection of the building some years ago the Norman masonry was mostly in wonderful condition considering its age, and in fact hardly seemed to require any attention.

The Case of Leigh Church.

WE referred last week to the manner in which the architect concerned in the alteration of this church had been misrepresented at the meeting of the Society for the Protection of Ancient Buildings, as having wantonly destroyed an interesting church. The following extract from Mr. Ponting's Report to the Vicar in regard to the best way of dealing with the church will enable our readers to judge for themselves whether our remarks were not called for:—

"As regards the alternative of closing the present church and building a new one, I cannot speak with an intimate knowledge of the parish, but so far as I could learn from the remarks at the meeting referred to,* I conclude that the main objection to the position of the old church is, not that it is not fairly in the centre of the parish, but that the road to it is almost impassable in wet weather.

I feel that this is not a matter in which I should pronounce judgment, but I would earnestly counsel you to consider very carefully, and from every point of view, whether, either by improving the present road, or by forming footpaths across the fields, and constructing a raised gravelled causeway over the lower parts, the means of access cannot be improved and rendered tolerable, so that this interesting church might be restored and retained in use, and the parishioners continue to worship where their forefathers have worshipped for over 600 years. The thread of associations is one which should not be lightly broken, and I consider that to preserve it is worth a much larger outlay than would be needed to construct a new church, provided the parishioners can be (as I gather can be the case) satisfactorily accommodated as regards convenience."

It would hardly be possible to speak more feelingly in regard to the value of the associations connected with an ancient building; and we have reason to believe that the Secretary for the S.P.A.B. had seen this Report, and was acquainted with its contents; and if so, there can hardly be any but one opinion on the disingenuous character of his procedure.

The Protection of Monuments in Prussia.

THE Prussian Government has now made arrangements according to which every province will have its special curator of ancient monuments, besides a Commission comprising several Government officials, local museum officials, and frequently, according to circumstances, a number of private citizens. About twelve of the special curators have now been appointed; they are nearly all architects or officials of the Government Board of Works. We shall take a future opportunity of describing the powers and duties of the curators and of the special Commissions, which vary according to the different requirements of the separate provinces.

The Rights of Strikers.

A CASE of much interest and importance to working men on strike was decided last week at the Borough Quarter Sessions at Portsmouth. It arose out of the strike in that town of carpenters and joiners. The prosecutor was a non-unionist and continued at work, and the prisoner was one of a number of persons who followed the prosecutor along the street in a kind of military order; he was pointed out, and it appears that there was a certain amount of disorder in the crowd. The jury found the prisoner guilty of the charge—namely, of unlawfully and wrongfully following the prosecutor with a view to compel him to abstain from acting as a carpenter and joiner. It is fair to state also that they found that the prisoner did not intend to use violence. It appears that some question of a technical legal character may yet have to be discussed on appeal as to whether there was a sufficiently definite act alleged by the prosecution. But for the moment we must take the case as it stands, and in its present state it is a useful one. The following of men by organised crowds is undoubtedly an interference with individual liberty; the right to strike is an act of individual liberty which should be allowed, but the liberty not to strike and to be allowed to go to or from work without molestation must also be equally protected by the law.

* This was a meeting of the churchwardens, the Vicar, the architect, and one or two other persons concerned, to discuss the alternative courses to be adopted in regard to the church.—ED.

Birmingham Water Supply.

THE construction of the new works for the water supply of Birmingham from the Rivers Elan and Claerwen, tributaries of the River Wye, is now well started. The work on the watershed is being done by administration by the Corporation themselves. The railway from Rhayader to the site of the dams is completed, and the excavation is well in hand for the dams of the three reservoirs, which will provide a storage of 11,000 million gallons, for the first instalment of the supply and for compensation. The building of the dams is about to be started. Out of a total length of aqueduct of 74 miles, 24 miles, at the reservoir end, has been let by contract to two firms: 10¾ miles to Messrs. Morrison & Mason, Limited, of Glasgow, for £290,000, and 13¼ miles to Messrs. J. Aird & Sons, of London, for £379,000. The former contract includes two long tunnels, one 4¼ miles and the other 2½ miles long, of which a distance of over 2 miles has been driven. The first instalment of the supply will be capable of delivering 26 million gallons of water daily in Birmingham, and the estimated cost is £3,600,000.

Street Lighting in the City.

THE Streets Committee of the Commissioners of Sewers are at present trying a series of experiments in electric and gas lighting to find out the most efficient way of lighting the smaller streets in the City. In Watling-street alternating current arc lamps have been hung from ornamental girders at a considerable height above the centre of the street. We were not impressed with the lamps, although a good attempt had been made to get over the inherent defects of the alternating current arc. A strong breeze blowing at the time made them oscillate violently, and as they cast strong shadows the effect was much the same as if on the deck of a channel steamer during a stormy crossing. In Wood-street incandescent gas lamps are placed zigzag down the street. Coming out of Cheapside, which is excellently lighted by arc lamps, the light of the gas lamps seemed very green. It apparently does not do to mix up arc lamps and incandescent gas lamps; the lanterns, too, were very clumsy and ugly. In Friday-street the arcs were attached to brackets in the walls, but they were working badly when we saw them, and the hum was unpleasant; besides, the wind produced the effect of a shaky pavement. In Bow-lane simple glow lamps were fixed on brackets, and clear glass was used. The light had a yellowish tinge, but the illumination was much better than we had anticipated. The Streets Committee deserve great credit for carrying out these experiments, as they have succeeded in interesting the public in the important problem of street lighting.

Electrical Drilling.

AN ingenious application of electricity has recently been made at the Hotel Cecil, which, as it may often save time and labour, is worth recording. In the marble staircase of this building the balusters had been placed so far apart that it was quite possible for a child to slip through between them, and so, in order to make it perfectly safe, it was resolved to put a brass baluster between every two marble ones. In order to do this as quickly as possible with the minimum of noise and dirt, Mr. Jacob, of Messrs. Waring & Sons, suggested an electric motor with flexible shaft and twisted drill. A small ironclad motor was used of about one-horse power, which could be run from the house mains at 110 volts, and could be started and stopped by an ingenious switch worked by the foot of the operator. The holes in the lower side of the handrail are 1¼ in. broad by 1 in. deep; on the steps smaller holes were made. The rate at which they were drilled was twenty-five of the large ones and thirty or forty of the smaller ones in a day. The mere drilling took very little time, but arranging the guide for the drill had to be carefully done, as the balusters were often at different distances apart. The holes made were neat and clean, with very little fracture at the edges. It is an admirable method for rapidly drilling holes in marble when electric power is available, and is capable of many other applications.

St. Mary's, New Shoreham.

AN appeal is made for subscriptions to a sum of 2,500*l.*, the estimated cost of repairs which, we read, are necessary for preserving the tower of St. Mary's, New Shoreham. The cruciform church was originally built *circa* 1130, and affords a very interesting example of the later Norman and the Transitional styles. Most of the nave has long fallen into ruin, but the easternmost bay is retained as an abutment for the tower. Twenty years ago, Mr. T. Dyer Edwardes gave 1,000*l.*, which were devoted to some structural repairs, including re-roofing, new doors, a carved stone pulpit, &c., under the superintendence of Mr. Arthur Leader, of Brighton, architect. In 1075, William de Braiose, the first overlord of Bramber, conferred the ecclesiastical rights of Shoreham upon the monks of St. Florence, at Saumur, in Anjou, and these were afterwards transferred to Sele—now Beeding—Priory. Phillip, son of William, confirmed his father's grant, adding thereto the then newly-erected parish church of St. Maria de Haura Seoraham. There is a good view of the church, from south-east, in vol. ii. of Horsfield's "Sussex," 1835, 4to.

Berlin Church-Building.

WE have several times referred to the great activity in church-building which has prevailed in Berlin since the present Emperor came to the throne. It is interesting to know that the body which takes a similar position in the German capital to our Ecclesiastical Commissioners has decided that thirty more churches are necessary for the town. We must presume that the officials have some basis for this statement, but from what we know of Berlin life, we are curious to hear how the thirty congregations are to be obtained.

The Star Chamber.

YESTERDAY week were sold, at Christie's, the reputed lock and key (of brass and steel), of the Star Chamber, Westminster Palace, being the King's judicial court which was abolished by statute 17 Charles I. The chamber stood at the north-east end of the hall, and was built *temp.* Elizabeth. Over a doorway were carved "E.R.," an open rose on a star, and "1602." The original decoration of the oak ceiling* is by some supposed to have given the Court its distinctive name. By another account "Star" is a corruption of the Hebrew "Shtaroth"—the contracts or agreements, for the greater part of the twelfth and thirteenth centuries, entered into between Jews and Christians which the parties were required to deposit in the then Court of Exchequer. The deeds were executed in triplicate, so that the third copy might be kept there; the king taking a silver "besant"—about two shillings—for each pound of every sum that passed under the deeds. Similar repositories were established in provincial towns, but we understand that the only Shtaroth that have been preserved are some of those originally deposited at Westminster. The Star Chamber and Exchequer Buildings were finally pulled down in 1836. Some fittings of the former were secured by Sir Edward Cust for the dining-room of his country seat, Leasowe Castle, in Cheshire. Three Tudor-arched doorways were found behind the wainscot, and under the staircase an arched opening, with roses in the spandrels.

The New Royal Academician.

THE elevation of Mr. Ernest Crofts to the full honours of "R. A." is not to be regarded, as an evening paper suggested, as a mere matter of seniority. Mr. Crofts, in his various battle pictures, has shown a good deal more than "a conscientious regard for detail and historical accuracy." He has shown a power of representing incidents in a fight with dramatic force and vigour without departing from probability, and he has shown the higher power of conveying a vivid impression of the character and personality of some of the great generals whose figures have been prominent in his paintings. His figure of Marlborough riding through the army the morning after a victory (we forget which) is not likely to be forgotten, and is probably the best realisation of Marlborough that we have on canvas. Others of the portrait figures in Mr. Crofts's pictures show a similar power of characterisation, which implies a great deal more than mere technical ability and attention to detail.

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*See a plate in Smith's "Westminster;" and a view of the Chamber in Britton and Brayley.

THE ROYAL ARCHÆOLOGICAL INSTITUTE AT CANTERBURY.

IN selecting Canterbury as the place of its annual meeting for 1896 the Royal Archæological Institute has done well. Not only is Canterbury itself, with its great cathedral church, the remains of the rival monasteries of Christchurch and St. Augustine's, its Roman remains, and its Early Saxon and other churches full of interest, but the surrounding district literally teems with antiquities of almost every kind, the only marked defect being the lack of examples of domestic architecture on a large or fairly large scale. The Roman remains are of the first rank, the Saxon churches include the oldest in our land, and the later periods of architecture, ecclesiastical as well as domestic, are well represented. That the place of meeting is an attractive one is amply proved by the fact that over one hundred members have assembled to take part in the proceedings.

The formal business of the meeting was opened at noon on Wednesday, July 22, when the Mayor of Canterbury received the members in the Guildhall and offered them, on behalf of himself and his fellow-citizens, a hearty welcome to their ancient city. Lord Dillon, F.S.A., as President of the Institute, returned thanks to the Mayor for his kind reception. The Bishop of Dover, as the representative of the Archbishop of Canterbury, expressed his Grace's regret at his inability to be present as President of the meeting, as he had promised, and referred in graceful terms to the interesting reason for the Archbishop's absence. He also apologised, as the representative of the Dean of Canterbury, for that gentleman's unavoidable absence owing to a long-standing engagement, and, as Archdeacon of Canterbury and a member of the capitular body, offered the Institute a most cordial welcome on behalf of the Dean and Chapter. After a hearty vote of thanks to the Bishop, proposed by Mr. Henniker Heaton, M.P., and to the Mayor for presiding, on the proposal of Sir H. H. Howorth, M.P., F.R.S., F.S.A., the proceedings terminated. By the courtesy of the Mayor and Corporation, the civic insignia, and the maces of the extinct borough of Fordwich, were exhibited, and described by Alderman Mason.

After luncheon the party reassembled before the gateway of St. Augustine's College, the ancient entrance to the great Benedictine Abbey of St. Peter and St Paul, more commonly, however, known as that of St. Augustine. Mr. W. H. St. John Hope pointed out the main features of gateway as an admirable example of its class and of early fourteenth century date. Passing through the gate into the old *curia* or outer court of the monastery, now the quadrangle of the College, Mr. Hope briefly sketched the architectural history of the abbey, and indicated its general arrangements. The ancient guest-hall and chapel adjoining the gate, the remains of the cloister and its surrounding buildings, and the fragments of the church were next examined under Mr. Hope's guidance. The site of the eastern range of buildings, and of the transepts, tower, and eastern arm of the church, with its crypt, apse, and surrounding chapels, is occupied by a hideous series of pig-sties, cow-sheds, and heaps of every kind of refuse and garbage. Passing through to the site of the nave of the great church the party proceeded to the ruins of the little church of St. Pancras, where Canon Routledge explained the results of excavations made by him on the spot, which showed that the building consisted originally of a nave and apsidal chancel, with western porch and small north and south chapels. The nave and chancel were divided by a triple arcade, carried by four small columns, one of which, a re-used example of good Roman work, still remains perfect to a height of 3 ft. Mr. Hope referred to the similarity of the plan to those of other very early churches at Rochester, Lyminge, and Reculver, and thought it not unlikely that St. Pancras was built under the direction of Augustine himself, of old Roman materials, soon after his coming here in 597. A move was then made to the church of St. Martin, where Canon Routledge gave an interesting account of the history and architecture of the building and of recent discoveries made by excavation and the removal of the plaster from the walls. The former had shown that the chancel was originally attached to a nave of apparently the same width, and that there was once a small chamber on the south side in the angle between the chancel and nave, with entrances from both. The removal of the plaster had revealed the construction of the walls, of quite Roman character, and the existence of two original west windows, and a lofty archway between them. Both the nave and the western half of the chancel Mr. Routledge considered to be Roman, built perhaps within fifty years of each other.

After inspecting the outside of the church the party proceeded to the adjoining Jacobean house of Mr. and Mrs. Chapman, who freely permitted examination of it.

In the evening Professor T. McKenny Hughes, F.R.S., F.S.A., delivered at Eastbridge Hospital his opening address as President of the Antiquarian Section, with reference to the continuity of domestic life in Britain from the earliest times, as revealed by the objects of everyday life which have been disinterred from time to time. The Rev. G. M. Livett followed with an address on the vexed question of the Roman origin of St. Martin's Church. He did not think that they could overlook the fact stated by Bede that there was here "a church anciently dedicated in honour of St. Martin while the Romans still dwelt in Britain," and the question was: Did the present church contain any nucleus of a Roman building? By reference to plans and drawings made by himself, representing the recent discoveries, Mr. Livett showed that, in his opinion, the oldest part of the church was the western half of the chancel, which had originally terminated in an apse, and formed the chancel of the Roman church mentioned by Bede. It not only contained an inserted door of very early Saxon date, but Mr. Routledge's excavations had proved it to have been older than the present nave. An interesting discussion, in which the Chairman, Professor Clark, Sir H. Howorth, Mr. Micklethwaite, Mr. Hope, and others took part, prolonged the proceedings to a somewhat late hour, and though the speakers were by no means unanimous, it was agreed that the recent discoveries had furnished material for an entirely new consideration of the question at issue.

On Thursday morning carriages were in readiness to convey the party, which numbered over ninety, to Fordwich. This quaint little place was once an incorporated town and an appendage of the Cinque Ports, but is now a mere village. In the centre of it, on the bank of the Stour, stands the court-hall, a curious fifteenth-century building of two stories, with the prison, &c. below, and the court-room above. The whole is of timber with brick filling, with a picturesque tiled roof. The upper room is reached by a steep Jacobean stair, and contains the bar before the mayor's seat, and a singularly small "jury-room" in the corner, where a jury would not care to be long shut up for deliberation. Attached to the moulded tie-beam of the roof is the old ducking-stool, and on the floor is a huge ark or hutch, the "town's chest." The history and features of the building were explained by the Rev. C. E. Woodruff, who informed his audience that the Town Trust, to whom the building belongs, have before them a scheme for its repair. We are glad to understand that the Society for the Protection of Ancient Buildings is watching the case. A move was next made for the parish church of St. Mary, which was also described by Mr. Woodruff. It consists of a chancel and nave of Norman date, with an added north aisle (in which are inserted two of the old Norman windows of the nave) and somewhat later west tower and south porch. Over the chancel arch is an interesting Elizabethan panel with the Ten Commandments and Royal arms, but the latter have been altered into those of William III. The Decorated windows of the nave contain some beautiful bits of old glass. The font is a square marble one of Norman date, to which period there also belongs a remarkable "hog-backed" monumental stone, now in the north aisle. It has on the side an intersecting arcade with the billet moulding, and on the slopes of the coped top overlapping scales, to imitate tiles or shingles.

From Fordwich the journey was continued to Reculver. Here, after luncheon, Mr. G. E. Fox gave an address upon the history of the Roman station. It was, he said, one of the earliest of the fortresses built to protect the coast against the invading Teutons, and was placed where it was to command the northern mouth of the strait or channel that then separated the Isle of Thanet from the mainland. In shape it was square, with rounded angles, and no external towers—a feature indicative of its early date—but the northern part had been destroyed by the encroachment of the sea during the last hundred years. On the east and south sides a good deal of the enclosing wall remains, of flint rubble with white mortar and no bonding courses, and this was afterwards examined under Mr. Fox's guidance. Nothing is left or known of the gates.

The old parish church, now desecrated and pulled down, save its western towers, which serve as sea-marks under the Trinity House, Mr. Fox thought might have stood on the site of the Pretorium. The more ancient parts of it were referred to by Mr. Micklethwaite, who said that, although built after the Roman manner, they were not Roman but Saxon, and not unlikely the work of "Bassa, the mass-priest," to whom the site was given "to build a minster thereon" in 669. Re-entering the carriages the party next proceeded to Herne, where they were met by the Vicar, the Rev. J. R. Buchanan, who described to them the parish church of St. Martin. It consists of a chancel and nave, both with aisles, a north porch, and fine Decorated tower at the western end of the north aisle. The rest of the church is Perpendicular, but excepting the arcades every other architectural feature has been "restored." The chancel contains some interesting stall-work and misericords, and there is a good and late but mutilated screen across the north aisle. The chancel screen is modern and devoid of interest. The font is a beautiful and well-known example, rich with heraldry, and can be shown from the arms to date between 1405 and 1413. There are a number of brasses on the floor.

In the evening, the Historical Section was opened by Professor E. C. Clark, LL.D., F.S.A., who took as the subject of his presidential address "The Repopularisation of History as exhibited by the Publication of Numerous Manuals and Text-Books." Mr. F. W. Cross next read a paper on the early minute books of the Dean and Chapter of Canterbury, from 1561 to 1628. The four earliest volumes were, unfortunately, greatly damaged by fire in the seventeenth century, but by diligent patience Mr. Cross had been able to decipher a large number of curious entries relating to the affairs of the Chapter, chiefly with reference to their extensive lands and buildings, &c. Only one reference is made to the Walloon refugees, but it is of importance as showing that the main body did not arrive in Canterbury until 1575, and the place of worship first assigned to them was not the crypt of the cathedral church, but they were allowed "to have the use of their common prayer and sermons in the parish church of St. Elphies in Canterbury, in such sort and at such times as the parishioners there be not hindered or disturbed of their common prayer." The use of part of the crypt was a later arrangement.

According to the time table the members of the Institute should have left on Friday for Dover by the 9.46 a.m. train. Owing, however, to the mismanagement of the London, Chatham, and Dover Railway, it was not until forty minutes after the advertised time that the party were able to leave, thus seriously dislocating the arranged programme. On arrival at Dover the members proceeded to St. Mary's Church, where another unlooked-for check was experienced, the vicar having wrongly entered in his diary the time of the visit of the Institute, and being about to hold a service. A move was accordingly made for the Town Hall, the next place to be visited. Here the Mayor of Dover cordially welcomed the Institute, and one of their old members, Mr. E. W. Knocker, the Town Clerk, gave a lucid account of the old Maison Dieu, on whose site the present Town Hall had grown up. Traces of the old building remain in the tower abutting on the street, and in the arches that once connected the two halls. By the courtesy of the Mayor and Corporation the mace, moothorn, seals, and plate were exhibited. A return visit was then paid to St. Mary's Church, where the vicar, the Rev. Prebendary Palmer, described the building. The western tower, of Norman date, and the adjacent parts of the old Norman nave are the only important features. The remains of St. Martin's Priory, now incorporated in Dover College, were next visited, under the guidance of Mr. Hope. The buildings include a good early fourteenth century gatehouse, a late Norman guesthouse, consisting of a nave and one aisle, originally divided transversely into two halls, and the ruins of a large barn behind. The sites of the church and the eastern range of claustral buildings are now covered by streets. Of the western range, which was the cellarer's lodging, with an entry to the cloister and an upper floor gained by an external stair, some fragments only remain. The frater is fortunately perfect. It is a grand late Norman hall, 100 ft. long, with continuous wall arcade of tall arches, of which the alternative ones in the side walls are pierced for windows. Under the eastern arches, at the back of the dais, are the traces of a remarkable contemporary painting of the "Last Supper."

After luncheon a move was made in the direction of the castle, which was examined under the direction of Mr. Emanuel Green. The church of St. Mary was first visited, and here Mr. Micklethwaite pointed out the main features of its plan, which, he said, were characteristics, despite the Roman material of the building, of a church of quite late Saxon date, just anterior to the Conquest. The Roman Pharos to the west of the church had evidently once been attached to it, no doubt for use as a bell-tower, and to this it clearly owed its preservation. He also pointed out the evidence of the existence of a western gallery, which was a not uncommon feature in Saxon churches.

Mr. Green commented upon the Roman origin of the Pharos and its probable use as a light-house, and Mr. Hope pointed out that it was composed of older Roman materials re-used and built with white mortar, but in the case of the voussoirs of the windows and doors they were laid with pink mortar, and of alternate stones and tiles, exactly like the little windows found in St. Martin's, Canterbury.

The party were then conducted by Mr. Green over and around the great keep, and after a most enjoyable day, spent under absolutely perfect atmospheric conditions, returned to Canterbury in time for dinner. In the evening, papers were read by Mr. E. W. Brabrook, F.S.A., on "Kent in relation to the Ethnographic Survey," and by Mr. Micklethwaite on "Some Saxon Churches." The latter, owing to its length and somewhat late start, could not be finished, and it was arranged to hear the end of it and any consequent discussion on the following evening. The paper itself was an important and interesting one, and illustrated by a large series of plans drawn to a uniform scale. Mr. Micklethwaite attempted to show that all the churches of Saxon date could be arranged in groups according to their plans, based upon types, such as the Basilican, the aisleless, those with central towers, &c. The publication of such a paper will no doubt be awaited with interest.

Saturday morning's work began with the annual business meeting of the Institute, for members only. At its conclusion Professor Tocilesco, of Bucharest, gave an interesting account of a monument erected by Trajan at Adamclissi, in Dobruscha, to the memory of a number of soldiers who perished in a battle, which fight is also depicted on the Trajan Column at Rome. Mr. G. E. Fox then read a carefully-prepared paper on the Roman Fortresses in Kent, in which he gave reasons for assigning relative dates to the camps at Reculver, Richborough, and Lympone respectively. The evidence is to be found, first, in their change of plan from the early square form; secondly, in the increasing thickness of their walls; and thirdly, in the gradual development of the mural towers.

The perambulation of the city was afterwards resumed under the direction of Canon Scott Robertson, who especially called attention to the interesting remains of the Hospital of St. Thomas of Canterbury in Eastbridge, and to the Church of St. Alphege. After luncheon, excursions were made to Chartham church, a charming early fourteenth century example, with "Kentish" tracery in the chancel windows, and to Chilham church and castle.

The conclusion of our account of the proceedings of the Institute will be given next week.

STUDENTS' DRAWINGS AT SOUTH KENSINGTON.

The annual Exhibition of the works executed by the students in the Schools of Art throughout the kingdom has been lately opened to the public at the South Kensington Museum, and will remain open till the end of this month. The Exhibition is of more than usual interest because, besides the works executed in 1895-6, there is a retrospective exhibition of students' prize works for the last twelve years. This retrospective exhibition is kept quite distinct. The works which most directly interest the bulk of our readers are classed by the Department under three heads—(1) architectural design, (2) measured drawings, (3) architectural sketches. As to the first, a gold medal is awarded to Mr. P. S. Maclauchlan, of the Glasgow School of Art, for the design for a triumphal arch. The design, in the Classic manner, is finished and shaded after the French custom, but is not drawn in the best style, and is very incomplete as to large scale details.

Silver medals are awarded to Mr. W. Haywood, of Birmingham, for his design for church fittings, which are well drawn and indicate knowledge of style. We noticed, however, that nobody could sit in his stalls, except on the very edge of the seat, on account of the projection of the book-rest. It is a mistake which, of course, could not be made by a practical designer.

Mr. Alex. D. Hislip, of Glasgow, also obtains a silver medal for his design for a triumphal arch, which in many respects is preferable to the one which obtains the gold medal. As coming from Glasgow, it shows the influence of "Greek" Thomson, and is drawn with considerable care and feeling, and, being finished in sciography, is shown to advantage.

Mr. H. T. Buckland obtains a silver medal for a design for a cottage hospital, which is a satisfactory piece of work, combining as it should simplicity of treatment with breadth of design and planning. A photograph attached to the drawing shows a study of the design executed in clay, a method which might be more generally adopted for a simple type of building.

Mr. E. F. Reynolds sends a sketch of a wayside inn in pencil and colour. As a sketch it is homely, and suited to its purpose; but, in the absence of sufficient detail drawings, it might or might not turn out to be satisfactory if erected.

We notice several designs which have been seen before by our readers in the yearly competitions of the Institute of Architects. Glasgow especially seems to favour the idea of getting as many medals as possible for one design. This system of "pot-hunting" need not necessarily be commended, but if the Department see no harm in sending designs, made primarily for their own prizes, in for those of other institutions, it is to be expected that students working in Schools of Art will avail themselves of the opportunity. The design, by Mr. F. W. C. Gregory, for an Institute of Architects, although in many respects excellent in plan, is badly drawn. There are many other designs which we have not space to criticise here. As a general rule all suffer from the same failing—the want of constructive knowledge and the absence of breadth in design. On the other hand, much of the work is painstaking, and shows a good deal of careful study.

In what is known as the "local personal examination," about half-a-dozen sets of designs are exhibited. This is an examination in design, much on the same lines as at the Institute of Architects. It lasts for three days, for five and a half hours each day. In the first day the general sketch is made, and the two next days are occupied in finishing and detailing the design. The subject this year was for a chancel to a large and important church. The designs necessarily exhibit haste in execution, and have no names or number for identification.

In the section of architectural drawings from measurements, most of the drawings are absolutely useless from an educational point view, and seem to be treated more as trials of draughtsmanship than as serious studies of architectural construction, which is what a measured drawing should be. What is one to think of a set of drawings of the staircase to the chapter-house at Wells, with its stone tracery work, arches, and vaulting, in which none of the stone jointing is even indicated? The drawings are well done by Mr. B. Bower, of Birmingham, but they tell us nothing of value. There are some exceptions to this general condemnation, and among these we should notice the careful drawing of the Skipper House, Ghent, by Mr. James A. Swan, which formed one of the Pugin studentship drawings for last year. In fact, where any really good work is seen it can very often be traced to outside influence, and not to any system enforced by the South Kensington authorities.

Several drawings indicate the tendency of the Department to make for "pretty" drawings rather than for really useful ones. In this respect the screen from Somerset House has been measured and drawn by several students for the "art master's certificate." These are not even given a plan, but are merely treated as façades, shaded according to the rules of sciography.

In the section of architectural sketches, Mr. J. D. Walker takes a silver medal for some sketches made in Belgium and England. They will do admirably for book illustrations, but are useless as architectural studies. Mr. Swan, of Birmingham, also receives a silver medal for some of his Pugin studentship drawings, which he has thus laid out to "kill two birds with one stone."

The Retrospective Exhibition previously mentioned is well worth a visit. Here we find many old friends in the shape of measured drawings and designs which have been in for medals at the Institute competitions.

Mr. P. K. Allen's drawings of Wollaton Hall, published in the *Builder*, July 6, 1889, the late Mr. Heber Rimmer's drawings of Compton Wyngates, which have a melancholy interest, are on view, as well as others, including measured drawings from Aston Hall, Warwickshire, and other historic buildings.

BRITISH INSTITUTE OF PUBLIC HEALTH:

CONGRESS IN GLASGOW.

THE opening meeting of the British Institute of Public Health was held in the Bute Hall of the University of Glasgow on the 23rd ult. Sir James Bell, the Lord Provost, and Magistrates assembled and robed in the Senate Room, and afterwards proceeded to the Randolph Hall, accompanied by Dr. Smith, of London, the President of the Institute, where the delegates were formally received.

The Lord Provost, having taken the chair, delivered the presidential address, in the course of which he said that the history of Glasgow from the sanitary standpoint was the history of every modern commercial city. As a city its beginnings took them a very little way beyond the opening of the present century. Ninety years ago its population was 75,000, and Buchanan-street was the West End of the city. When, however, it began to grow, its growth was rapid, too rapid for the health of the community. The deepening of the river, the inauguration of the railway system, the extension and development of the shipping, the establishment of large iron works, were among the chief contributing causes to the growth of the city, to the influx of population, and leading to the congestion of the people within the then narrow confines of the city. In 1847 the population of the city was 320,470, the death-rate was 56 per 1,000, and the number of deaths from "fever" was 4,346, or 10 per 1,000, representing in cases some 45,000. As showing the results of their sanitary system, they might compare 1893, chosen as the worst epidemic year in recent times. In that year the population was 677,880, the death-rate was 23 per 1,000, the number of deaths from "fever" was 137, and the number of cases compulsorily notified was 800. It did not appear that the sanitarians of the future would be able to introduce such notable reforms as had characterised the period of resolute endeavour embraced within the last thirty or forty years; but there was one that had not yet established itself as a cardinal doctrine of public health in all our cities and large towns with congested districts—viz., the provision of children's playgrounds. In view, then, of all their past achievements and present activity, were they prepared to give a decided "yes" to the question whether or not they were making distinct and satisfactory progress? He had no hesitation in saying that they were. They had many defects to deplore, but these defects were in themselves eloquent of progress. In Glasgow the heaviest indictment Dr. Russell had to lay against them was the impurity of the river and of the air. Their treatment of the sewage problem was in a more advanced condition. At the Dalmarnock Works they would have an opportunity of inspecting the system which they hoped would ultimately enable them to withdraw the entire sewage of the city from the river. Their Dalmuir scheme of sewage disposal, which had just passed both Houses of Parliament, was one of the largest enterprises the city had put its hand to for many years in the interest of the communal health. The final portion of the scheme dealing with the south side of the river would be speedily produced, and he hoped it would embrace an area down to the Renfrew water. Many were anxiously inquiring what were the limitations of municipal government. In the past the answer had been supplied by experience, and experience must be their guide and leader in the future. Their ultimate aim must ever be to have a city built and laid out under intelligent sanitary conditions and supervision; everything in its conception and growth must tend to allow of the highest welfare of the people, so that they might have the opportunity to attain in the highest degree their material, social, intellectual, and moral welfare. A sound mind in a sound body was at the base of all that, and it seemed to him to be the duty of all who interested themselves in civic life to strive to create such conditions that rich and poor alike would have to go out of the ordinary tenor of their lives if they wished to live in unhealthy and insanitary conditions, and it would be the normal state of city life that the inhabitants were protected from the risks of general unhealthy conditions.

Professor William Ramsay, of University College, London, then delivered his address as President of the Chemistry and Engineering Section, in the course of which he dealt with the smoke nuisance, the disposal of refuse, the supply of water, the precautions to secure a reasonable cleanliness. All these had been carefully considered, and difficulties had in a great measure, and in Glasgow especially, been overcome. But they had not yet touched the fringe of that great pall which hangs over cities, shutting out the sunlight, and which, while it was an enemy to cleanliness, was also a supporter of disease. They could classify, as was usual, under three heads, the harm done by smoke:—1. It deposited in our houses, on our clothes, and on our persons, as "blacks," necessitating a great expenditure of labour and of soap. 2. It condensed atmospheric vapour, causing fog and rain, and rendering our climate colder, and made our lives more or less unhappy and uncomfortable. 3. It shut out sunlight, and thus increased the growth and tended towards the multiplication of bacteria—many of which were of a dangerous character—and, inasmuch as it condensed vapour on its particles, it accumulated in the atmosphere, in the form of haze, mist, or fog, material capable of absorbing precisely that quality of light which proved fatal to bacteria—namely, blue, violet, and ultra-violet light. Legislation had to some extent stepped in and forbidden the emission of excessive amounts of smoke or fume from the chimneys of factories and works, and even from domestic houses. To have a chimney on fire could be punished by a fine. But it might be said that much was nowadays done to promote the smokeless burning of coal in our factories by mechanical stokers, or by regular firing, or, when possible, by burning a fuel which emits little smoke. He was afraid that little inducement could be held out to the manufacturer in endeavouring to persuade him that a saving could be effected by burning fuel without smoke. There was one material—namely, coke—which gave out, weight for weight, a greater amount of heat than coal, which emitted no smoke, and which produced what all of them were so unwilling to relinquish, a bright glow in the grate. In Paris it was the universal fuel; but it was there burned in stoves, where the glow could be seen only through windows of mica; and though heat radiated through mica much more readily than through glass, yet the heat was produced mostly by the heating of the air of the room owing to contact with the hot iron of the stove. Such a stove required replenishing only once a day; the luxury of poking the fire was unattainable, but by moving backwards and forwards a bar at the front of the stove the ashes fell through into the ash-chamber, and the coke burnt with a brighter glow. Such a stove would keep alight day and night for six months, if need be, giving very little trouble, and a great deal of heat. But much as he should like to see such stoves introduced here, with their cleanliness, freedom from ash, and efficiency, he was not sanguine enough to expect that any attempt to introduce them wholesale would meet with the smallest success. And he therefore ventured to propose what might be a less efficient plan, but one certainly more likely to recommend itself to most householders. The Glasgow public was blessed with very cheap gas. To make that gas it was necessary to make at the same time an enormous amount of coke. The gas was necessary for illumination. It was unlikely that the electric light would replace it in the vast majority of houses, although, doubtless, it would slowly gain a footing. Besides, gas was required more and more for gas engines. It was usually difficult to dispose of the coke, which was necessarily an accompaniment of the gas, for coke was very difficult to light. But coke was easily set on fire by a proper arrangement of gas jets. A grate might be furnished with a gas bracket, on turning which round at right angle the flame would play under the bars and soon kindle the coke, and when coke was once well kindled it would continue to burn. The gas might then be extinguished, and the pipe bent so as to remove the kindler from under the grate.

Sir Henry Littlejohn, Edinburgh, proposed a vote of thanks to Professor Ramsay, which was agreed to, and Professor Ramsay briefly replied.

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The opening meeting of the second day's proceedings of the Institute was held in the Bute Hall, and Councillor Crawford, President of the Municipal and Parliamentary Section, delivered an address.

Dr. J. B. Readman, Edinburgh, read a paper before the Chemical and Engineering Section on "The Treatment of Peaty Water in a Reservoir." He said that in 1895 a large reservoir, occupying 113 acres, was constructed by the County Council of Linlithgow. It was situated on the high ground, about two miles on the main line between Airdrie and Bathgate, and was about 1,500 yards long. The Forrest Burn ran through it, and the catchment area was large. It was found necessary to deepen the reservoir, and to cut through peat. When water was introduced in June last it was highly coloured, and the people declared it undrinkable. Samples were sent to him for analysis, and, after some trouble, he was allowed to make an experiment. He gradually introduced alum at different points, and soon found that the action of the alum was to precipitate brown peaty matter, and in a very short time the water was so clarified as to be even clearer than that supplied to the city of Edinburgh. About sixty tons of alum had been applied to bring out this result; and it might be found necessary, under certain conditions, to add a little alum at different times.

Mr. A. E. Fletcher, late H.M. Chief Inspector under the Alkali Acts, read a paper on "The Pollution of the Atmosphere by Coal Smoke." He referred to the evils arising from the pollution caused by smoke, this having become almost unbearable as cities had become larger; and a demand was now made that every effort should be put forth to prevent the pollution. He contended that the smoke was injurious to health and comfort, and was becoming a nuisance. Mr. Fletcher said the smoke was due to the factory furnaces and to domestic or house fires, and that the smoke was caused by the chilling of the gases. Turning to the prevention of domestic smoke, he advocated coke stoves, and also suggested the heating of houses by hot-air stoves in the basement, and that cooking should be done by gas.

The President (Professor Ramsay) said that it appeared to him that the question of smoke prevention in factories would cure itself. Manufacturers themselves were alive to the necessity for doing away with smoke. It could be done. It was more difficult to deal with the domestic consumer, as so many of them were little able to afford any expenditure whatever, and as so many were so little amenable to reason. He was in favour of the open fire, and if a fuel could be obtained which, without being too expensive, would do away with smoke, that would only require to be stated to spread abroad. But after all some preventive legislation was needed to get in the thin edge of the wedge.

Mr. J. M. Ronaldson, H.M. Inspector of Mines, read a paper on "Ventilation, with especial reference to its Industrial Aspects." In dealing with his subject, Mr. Ronaldson showed how important it was that all workpeople should be provided with pure air, both in their dwelling-houses and places of employment, and suggestions were given as to how churches, halls, dwelling-houses, &c., should be heated and ventilated. The health of persons who habitually breathed contaminated air must be affected, and as the air in cities and large towns was not so pure as in the open country there was the greater necessity for seeing that the air inside buildings was as little as possible further contaminated. Seeing that a person could do more work mentally or physically when surrounded by a pure atmosphere, it was an advantage to both employers and employed, from a money point of view, that all should breathe pure air. By improving the ventilation in mines statistics showed that the miner's occupation was now one of the healthiest, and the air in their working places was, in a well-managed colliery, purer than it was in many of our dwelling-houses, workshops, &c. It was surprising to find that most of our dwelling-houses, churches, &c., were so constructed that proper ventilation was not practically attained. In cold weather the entrance of fresh air was carefully prevented, and rather than endure cold draughts most people preferred to put up with inadequate ventilation. To properly ventilate our halls and churches it was recommended to adopt a forcing fan driven by electricity, water-gas, or an oil-engine, with large and numerous branch pipes led into the building, and with ample area in the outlet pipes in the roof. To avoid draughts, when necessary the air should be heated previous to its entry by passing over coils of hot-water pipes. In warm weather it could be cooled by passing over blocks of ice. It might also be purified by passing

The old parish church, now desecrated and pulled down, save its western towers, which serve as seamarks under the Trinity House, Mr. Fox thought might have stood on the site of the Prætorium. The more ancient parts of it were referred to by Mr. Micklethwaite, who said that, although built after the Roman manner, they were not Roman but Saxon, and not unlikely the work of "Bassa, the mass-priest," to whom the site was given "to build a minster thereon" in 669. Re-entering the carriages the party next proceeded to Herne, where they were met by the Vicar, the Rev. J. R. Buchanan, who described to them the parish church of St. Martin. It consists of a chancel and nave, both with aisles, a north porch, and fine Decorated tower at the western end of the north aisle. The rest of the church is Perpendicular, but excepting the arcades every other architectural feature has been "restored." The chancel contains some interesting stall-work and misericords, and there is a good and late but mutilated screen across the north aisle. The chancel screen is modern and devoid of interest. The font is a beautiful and well-known example, rich with heraldry, and can be shown from the arms to date between 1405 and 1413. There are a number of brasses on the floor.

In the evening, the Historical Section was opened by Professor E. C. Clark, LL.D., F.S.A., who took as the subject of his presidential address "The Repopularisation of History as exhibited by the Publication of Numerous Manuals and Text-Books." Mr. F. W. Cross next read a paper on the early minute books of the Dean and Chapter of Canterbury, from 1561 to 1628. The four earliest volumes were, unfortunately, greatly damaged by fire in the seventeenth century, but by diligent patience Mr. Cross had been able to decipher a large number of curious entries relating to the affairs of the Chapter, chiefly with reference to their extensive lands and buildings, &c. Only one reference is made to the Walloon refugees, but it is of importance as showing that the main body did not arrive in Canterbury until 1575, and the place of worship first assigned to them was not the crypt of the cathedral church, but they were allowed "to have the use of their common prayer and sermons in the parish church of St. Elphies in Canterbury, in such sort and at such times as the parishioners there be not hindered or disturbed of their common prayer." The use of part of the crypt was a later arrangement.

According to the time table the members of the Institute should have left on Friday for Dover by the 9.46 a.m. train. Owing, however, to the mismanagement of the London, Chatham, and Dover Railway, it was not until forty minutes after the advertised time that the party were able to leave, thus seriously dislocating the arranged programme. On arrival at Dover the members proceeded to St. Mary's Church, where another unlooked-for check was experienced, the vicar having wrongly entered in his diary the time of the visit of the Institute, and being about to hold a service. A move was accordingly made for the Town Hall, the next place to be visited. Here the Mayor of Dover cordially welcomed the Institute, and one of their old members, Mr. E. W. Knocker, the Town Clerk, gave a lucid account of the old Maison Dieu, on whose site the present Town Hall had grown up. Traces of the old building remain in the tower abutting on the street, and in the arches that once connected the two halls. By the courtesy of the Mayor and Corporation the mace, moothorn, seals, and plate were exhibited. A return visit was then paid to St. Mary's Church, where the vicar, the Rev. Prebendary Palmer, described the building. The western tower, of Norman date, and the adjacent parts of the old Norman nave are the only important features. The remains of St. Martin's Priory, now incorporated in Dover College, were next visited, under the guidance of Mr. Hope. The buildings include a good early fourteenth century gatehouse, a late Norman guesthouse, consisting of a nave and one aisle, originally divided transversely into two halls, and the ruins of a large barn behind. The sites of the church and the eastern range of claustral buildings are now covered by streets. Of the western range, which was the cellarer's lodging, with an entry to the cloister and an upper floor gained by an external stair, some fragments only remain. The frater is fortunately perfect. It is a grand late Norman hall, 100 ft. long, with continuous wall arcade of tall arches, of which the alternative ones in the side walls are pierced for windows. Under the eastern arches, at the back of the dais, are the traces of a remarkable contemporary painting of the "Last Supper."

After luncheon a move was made in the direction of the castle, which was examined under the direction of Mr. Emanuel Green. The church of St. Mary was first visited, and here Mr. Micklethwaite pointed out the main features of its plan, which, he said, were characteristics, despite the Roman material of the building, of a church of quite late Saxon date, just anterior to the Conquest. The Roman Pharos to the west of the church had evidently once been attached to it, no doubt for use as a bell-tower, and to this it clearly owed its preservation. He also pointed out the evidence of the existence of a western gallery, which was a not uncommon feature in Saxon churches.

Mr. Green commented upon the Roman origin of the Pharos and its probable use as a light-house, and Mr. Hope pointed out that it was composed of older Roman materials re-used and built with white mortar, but in the case of the voussoirs of the windows and doors they were laid with pink mortar, and of alternate stones and tiles, exactly like the little windows found in St. Martin's, Canterbury.

The party were then conducted by Mr. Green over and around the great keep, and after a most enjoyable day, spent under absolutely perfect atmospheric conditions, returned to Canterbury in time for dinner. In the evening, papers were read by Mr. E. W. Brabrook, F.S.A., on "Kent in relation to the Ethnographic Survey," and by Mr. Micklethwaite on "Some Saxon Churches." The latter, owing to its length and somewhat late start, could not be finished, and it was arranged to hear the end of it and any consequent discussion on the following evening. The paper itself was an important and interesting one, and illustrated by a large series of plans drawn to a uniform scale. Mr. Micklethwaite attempted to show that all the churches of Saxon date could be arranged in groups according to their plans, based upon types, such as the Basilican, the aisleless, those with central towers, &c. The publication of such a paper will no doubt be awaited with interest.

Saturday morning's work began with the annual business meeting of the Institute, for members only. At its conclusion Professor Tocilesco, of Bucharest, gave an interesting account of a monument erected by Trajan at Adamclissi, in Dobruscha, to the memory of a number of soldiers who perished in a battle, which fight is also depicted on the Trajan Column at Rome. Mr. G. E. Fox then read a carefully-prepared paper on the Roman Fortresses in Kent, in which he gave reasons for assigning relative dates to the camps at Reculver, Richborough, and Lympone respectively. The evidence is to be found, first, in their change of plan from the early square form; secondly, in the increasing thickness of their walls; and thirdly, in the gradual development of the mural towers.

The perambulation of the city was afterwards resumed under the direction of Canon Scott Robertson, who especially called attention to the interesting remains of the Hospital of St. Thomas of Canterbury in Eastbridge, and to the Church of St. Alphege. After luncheon, excursions were made to Chartham church, a charming early fourteenth century example, with "Kentish" tracery in the chancel windows, and to Chilham church and castle.

The conclusion of our account of the proceedings of the Institute will be given next week.

STUDENTS' DRAWINGS AT SOUTH KENSINGTON.

The annual Exhibition of the works executed by the students in the Schools of Art throughout the kingdom has been lately opened to the public at the South Kensington Museum, and will remain open till the end of this month. The Exhibition is of more than usual interest because, besides the works executed in 1895-6, there is a retrospective exhibition of students' prize works for the last twelve years. This retrospective exhibition is kept quite distinct. The works which most directly interest the bulk of our readers are classed by the Department under three heads—(1) architectural design, (2) measured drawings, (3) architectural sketches. As to the first, a gold medal is awarded to Mr. P. S. Maclauchlan, of the Glasgow School of Art, for the design for a triumphal arch. The design, in the Classic manner, is finished and shaded after the French custom, but is not drawn in the best style, and is very incomplete as to large scale details.

Silver medals are awarded to Mr. W. Haywood, of Birmingham, for his design for church fittings, which are well drawn and indicate knowledge of style. We noticed, however, that nobody could sit in his stalls, except on the very edge of the seat, on account of the projection of the book-rest. It is a mistake which, of course, could not be made by a practical designer.

Mr. Alex. D. Hislip, of Glasgow, also obtains a silver medal for his design for a triumphal arch, which in many respects is preferable to the one which obtains the gold medal. As coming from Glasgow, it shows the influence of "Greek" Thomson, and is drawn with considerable care and feeling, and, being finished in sciography, is shown to advantage.

Mr. H. T. Buckland obtains a silver medal for a design for a cottage hospital, which is a satisfactory piece of work, combining as it should simplicity of treatment with breadth of design and planning. A photograph attached to the drawing shows a study of the design executed in clay, a method which might be more generally adopted for a simple type of building.

Mr. E. F. Reynolds sends a sketch of a wayside inn in pencil and colour. As a sketch it is homely, and suited to its purpose; but, in the absence of sufficient detail drawings, it might or might not turn out to be satisfactory if erected.

We notice several designs which have been seen before by our readers in the yearly competitions of the Institute of Architects. Glasgow especially seems to favour the idea of getting as many medals as possible for one design. This system of "pot-hunting" need not necessarily be commended, but if the Department see no harm in sending designs, made primarily for their own prizes, in for those of other institutions, it is to be expected that students working in Schools of Art will avail themselves of the opportunity. The design, by Mr. F. W. C. Gregory, for an Institute of Architects, although in many respects excellent in plan, is badly drawn. There are many other designs which we have not space to criticise here. As a general rule all suffer from the same failing—the want of constructive knowledge and the absence of breadth in design. On the other hand, much of the work is painstaking, and shows a good deal of careful study.

In what is known as the "local personal examination," about half-a-dozen sets of designs are exhibited. This is an examination in design, much on the same lines as at the Institute of Architects. It lasts for three days, for five and a half hours each day. In the first day the general sketch is made, and the two next days are occupied in finishing and detailing the design. The subject this year was for a chancel to a large and important church. The designs necessarily exhibit haste in execution, and have no names or number for identification.

In the section of architectural drawings from measurements, most of the drawings are absolutely useless from an educational point view, and seem to be treated more as trials of draughtsmanship than as serious studies of architectural construction, which is what a measured drawing should be. What is one to think of a set of drawings of the staircase to the chapter-house at Wells, with its stone tracery work, arches, and vaulting, in which none of the stone jointing is even indicated? The drawings are well done by Mr. B. Bower, of Birmingham, but they tell us nothing of value. There are some exceptions to this general condemnation, and among these we should notice the careful drawing of the Skipper House, Ghent, by Mr. James A. Swan, which formed one of the Pugin studentship drawings for last year. In fact, where any really good work is seen it can very often be traced to outside influence, and not to any system enforced by the South Kensington authorities.

Several drawings indicate the tendency of the Department to make for "pretty" drawings rather than for really useful ones. In this respect the screen from Somerset House has been measured and drawn by several students for the "art master's certificate." These are not even given a plan, but are merely treated as façades, shaded according to the rules of sciography.

In the section of architectural sketches, Mr. J. D. Walker takes a silver medal for some sketches made in Belgium and England. They will do admirably for book illustrations, but are useless as architectural studies. Mr. Swan, of Birmingham, also receives a silver medal for some of his Pugin studentship drawings, which he has thus laid out to "kill two birds with one stone."

The Retrospective Exhibition previously mentioned is well worth a visit. Here we find many old friends in the shape of measured drawings and designs which have been in for medals at the Institute competitions.

Mr. P. K. Allen's drawings of Wollaton Hall, published in the *Builder*, July 6, 1889, the late Mr. Heber Rimmer's drawings of Compton Wyngates, which have a melancholy interest, are on view, as well as others, including measured drawings from Aston Hall, Warwickshire, and other historic buildings.

BRITISH INSTITUTE OF PUBLIC HEALTH:

CONGRESS IN GLASGOW.

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The delegates were conveyed to the St. Andrew's Halls, where luncheon was served, and afterwards they visited several of the municipal works.

The opening meeting of the second day's proceedings of the Institute was held in the Bute Hall, and Councillor Crawford, President of the Municipal and Parliamentary Section, delivered an address.

Dr. J. B. Readman, Edinburgh, read a paper before the Chemical and Engineering Section on "The Treatment of Peaty Water in a Reservoir." He said that in 1895 a large reservoir, occupying 113 acres, was constructed by the County Council of Linlithgow. It was situated on the high ground, about two miles on the main line between Airdrie and Bathgate, and was about 1,500 yards long. The Forrest Burn ran through it, and the catchment area was large. It was found necessary to deepen the reservoir, and to cut through peat. When water was introduced in June last it was highly coloured, and the people declared it undrinkable. Samples were sent to him for analysis, and, after some trouble, he was allowed to make an experiment. He gradually introduced alum at different points, and soon found that the action of the alum was to precipitate brown peaty matter, and in a very short time the water was so clarified as to be even clearer than that supplied to the city of Edinburgh. About sixty tons of alum had been applied to bring out this result; and it might be found necessary, under certain conditions, to add a little alum at different times.

Mr. A. E. Fletcher, late H.M. Chief Inspector under the Alkali Acts, read a paper on "The Pollution of the Atmosphere by Coal Smoke." He referred to the evils arising from the pollution caused by smoke, this having become almost unbearable as cities had become larger; and a demand was now made that every effort should be put forth to prevent the pollution. He contended that the smoke was injurious to health and comfort, and was becoming a nuisance. Mr. Fletcher said the smoke was due to the factory furnaces and to domestic or house fires, and that the smoke was caused by the chilling of the gases. Turning to the prevention of domestic smoke, he advocated coke stoves, and also suggested the heating of houses by hot-air stoves in the basement, and that cooking should be done by gas.

The President (Professor Ramsay) said that it appeared to him that the question of smoke prevention in factories would cure itself. Manufacturers themselves were alive to the necessity for doing away with smoke. It could be done. It was more difficult to deal with the domestic consumer, as so many of them were little able to afford any expenditure whatever, and as so many were so little amenable to reason. He was in favour of the open fire, and if a fuel could be obtained which, without being too expensive, would do away with smoke, that would only require to be stated to spread abroad. But after all some preventive legislation was needed to get in the thin edge of the wedge.

Mr. J. M. Ronaldson, H.M. Inspector of Mines, read a paper on "Ventilation, with especial reference to its Industrial Aspects." In dealing with his subject, Mr. Ronaldson showed how important it was that all workpeople should be provided with pure air, both in their dwelling-houses and places of employment, and suggestions were given as to how churches, halls, dwelling-houses, &c., should be heated and ventilated. The health of persons who habitually breathed contaminated air must be affected, and as the air in cities and large towns was not so pure as in the open country there was the greater necessity for seeing that the air inside buildings was as little as possible further contaminated. Seeing that a person could do more work mentally or physically when surrounded by a pure atmosphere, it was an advantage to both employers and employed, from a money point of view, that all should breathe pure air. By improving the ventilation in mines statistics showed that the miner's occupation was now one of the healthiest, and the air in their working places was, in a well-managed colliery, purer than it was in many of our dwelling-houses, workshops, &c. It was surprising to find that most of our dwelling-houses, churches, &c., were so constructed that proper ventilation was not practically attained. In cold weather the entrance of fresh air was carefully prevented, and rather than endure cold draughts most people preferred to put up with inadequate ventilation. To properly ventilate our halls and churches it was recommended to adopt a forcing fan driven by electricity, water-gas, or an oil-engine, with large and numerous branch pipes led into the building, and with ample area in the outlet pipes in the roof. To avoid draughts, when necessary the air should be heated previous to its entry by passing over coils of hot-water pipes. In warm weather it could be cooled by passing over blocks of ice. It might also be purified by passing

through a water spray or suitable filter. By such a system there was at command a constant ventilating power which could be altered at will to meet varying requirements. In cities such as Glasgow, dwelling-houses and warehouses, &c., were mostly built in blocks several stories high, and as their compactness was in favour of one fan being made to do duty for several houses a similar system was advocated. Suppose a block of workmen's houses were to be erected. It was proposed that one forcing fan such as had been described be fitted up, with branch pipes led to all the rooms, and similar pipes led from the ceilings for the exit of the air into the chimneys or main outlet pipes led up through the roof. For cooking purposes it would be more economical and convenient to use gas stoves, from which the products of combustion would be forced by the fan directly into a ventilating flue.

Mr Wm. Brown, London, read a paper on "Chemical Sanitation and Public Health." He said that the chemical or antiseptic process of dealing with sewage proceeded on the assumption that the cycle of nature was the most correct model on which to base a system of sanitation—that the waste products connected with human living should be returned to the soil. It was also assumed that there was transit by means of water rom the dwelling-house to the most convenient point for preparing such waste products for reception by the soil. The first great desideratum was a means of conveying the waste from the dwelling-house to the outfall, without creating a nuisance or injuring the health; and the second was that having got the waste to a convenient outfall, to separate the superabundant water in such a way as to send a non-polluting affluent to the river, while the solids were retained in a state that their value would ensure a profitable distribution over the land.

The Municipal and Parliamentary section met in the Greek class-room, and among the papers read were the following:—"The Municipality and the Housing of the Poor," by Bailie Chisholm; "Health and Morals in relation to the Housing of Poor Children," by Mr. William Mitchell; "The Treatment and Disposal of Refuse in Glasgow," by Councillor Murdoch; and "Sanitary Difficulties met with in the Smaller Burghs," by Provost Shanks.

Saturday was set apart for purposes of recreation, and a large number of excursions had been organised for the benefit of members of the Congress. A number of public institutions were thrown open for inspection by the members of the Congress.

The sittings of the Institute were continued on Monday in the University Buildings, Gilmorehill.

A joint meeting of the Chemistry and Engineering and Preventive Medicine Section was held in the Humanity class-room—Professor Ramsay in the chair.

Dr. Joseph Priestly, of Lambeth, read a paper on "House Drainage: its control and general principles and the necessity for uniform laws in regard thereto." He proposed to discuss the subject under three heads—first, the general principles of house drainage; second, the necessity for uniform laws in regard to house drainege; and third, the control of house drainage. First of all, assuming the existence of a public sewer, there should be branch drains passing from the sewer under the roadway to the outermost wall of the house. These required to be carefully laid, and the joints made air and water-tight. The pipes should be six inches, so as to secure efficient flushing and cleaning, not to mention lessened expense. They ought to be laid on solid foundations, if not actually embedded in concrete, with proper and regular falls or gradients. From that point commenced the house drainage proper. The first thing required was an intercepting trap, so as to prevent the sewer gas from entering the dwelling. Intercepting traps were not unmixed blessings, but of two evils their duty was to choose the less. These traps should be easily accessible. There should be manholes, and he did not think it mattered whether the drain passed under or outside the house, provided there were inspection chambers supplied at back and front, and that all branch drains should come directly into them by means of channel bends. If that were adopted there was no reason why each house should not in future be drained separately. The drainage system must be well ventilated, the ventilating pipes being not less than 3½ in. or 4 in. in diameter. In the second place, he insisted on the necessity for a uniform system of laws in regard to house drainage. Personally he was in favour of interceptors, with the proviso that where there was an interceptor there must be manholes, while pipe openings should be supplied with a free hand. In the third place, he urged the importance of health officers coming to some agreement as to general principles on this subject. In the first place, control of the drainage should be in the hands of one official. Dual control was bad at any time. What was wanted was one responsibility. At present the surveyor and his building inspector superintended the building of new houses. When once such a house was inhabited, and if for any reason it became necessary to inspect it, the duty fell to the medical officer and his sanitary inspector. The result was that one department might have to find fault with the other, but the expense fell on the owner or the ratepayer. The remedy he would suggest was to make the medical officer responsible, not only for the reconstruction of drains of old buildings, but also for the drainage of new buildings.

Mr. Gilbert Thomson, C.E., Glasgow, said that in Scotland the sanitary inspector had a very great deal to do with house drainage—in fact, the chief part of it. Dr. Priestly took it for granted that the sanitary officer was the mouthpiece of the medical officer, but the practical control of the house drainage was in the hands of the sanitary officer. That was easily understood, for while the principal duty of the medical officer was to be thoroughly acquainted with disease and the causes of disease, the control of house drainage should be under one who had a practical acquaintance with constructional work, and that of drains in particular.

Dr. Ainley, Halifax, said he agreed with the general principles laid down by Dr. Priestly, but the difficulty was to have these ideas carried out. He did not agree with Dr. Priestly that the laying of the drains should be under the charge of the medical officer, who had enough on his hands; but he considered that these things should be under the care of an expert. As to interceptors, he had found them to be in many cases nothing better than a small cesspool. It would be better to have a manhole between the house and the main drain, and that the whole thing should go straight to the drain.

Mr. R. A. MacBriar, City Surveyor, Lincoln, considered that in matters of construction the engineer and surveyor should be supreme. He also objected to a uniform rule being laid down. Laws always lagged behind public opinion. Private views on sanitary matters were progressive, and engineers should have freedom in this matter.

Dr. Priestly, in replying, said the medical officers had no desire to carry out structural work, and he did not care on whom the responsibility rested; but, with the staff of sanitary inspectors they had now, he thought the medical officer ought to have a voice in this matter.

The hour for the meeting of the Chemical and Engineering Section having arrived, the members withdrew. The business of the Preventive Section was then resumed—Dr. J. B. Russell, the President, in the chair.

Dr. W. G. Willoughby, M.O.H., Eastbourne, read a paper advocating the sanitary certification of all houses before occupation. He read the regulations in force in Eastbourne, and said that, notwithstanding their stringent nature, one house in every ten had complied with the requirements. He found that the outlay was more than compensated by the increased rent got for certified houses. The principal objection to the system was taken by builders and house-agents, who said that a house could not be let without a certificate. This he regarded as an evidence of the value of the certificate.

Mr. Wolf Defries, London, read a paper on "Disinfection: Facts and Some Fancies Relating Thereto."

Dr. J. C. Thresh, M.O.H., Essex, read a paper on "Rural Water Supplies."

Dr. Nasmyth, M.O.H., Fife, Kinross, and Clackmannan, read a paper on the same subject. Since the inauguration of County Councils in Scotland, under the Local Government Act of 1889, three great sanitary considerations had been before Rural Local Authorities, viz.:—(1) Hospital accommodation and the prevention of infectious diseases; (2) drainage; (3) water supplies. In accordance with Section 89, Sub-section 2, every house must have a proper water-supply at or near the same, and failing this the Local Authority might compel the owner to provide it. As was well known, there had been much dubiety about the proper interpretation of this sub-section. The opinion of eminent counsel, however, had been taken, and it might be held that a Local Authority under this sub-section, could enforce water-supplies for houses, but there was great differences of opinion about the distance at which a water-supply might be from houses. He held that water, being as essential for life as air is, it should be as free of cost as the former. Let all water schemes and water supplies for towns and communities be carried out by the State, and under its control, and let the cost be borne by the owners of houses. If the State undertook this duty, the cost of obtaining land and carrying out schemes would be reduced to a minimum, and the burden on owners of houses would be a light one.

The Municipal and Parliamentary Section met at ten o'clock in the Greek class-room. Bailie Dick, Glasgow, presided.

Among the papers read was one entitled "County Sanitary Administration, with special reference to Dairy Sanitation," by Dr. J. T. Wilson.

Mr. Henry C. Jones, one of the joint hon. secretaries of the section, read a paper by Mr. Fred. Scott, Manchester, on "The Administration of the Law in relation to the Smoke Nuisance." In his paper Mr. Scott said that the provisions of the Public Health Act, 1875, relating to smoke must be grouped under two heads, namely (1) the furnace nuisance, and (2) the chimney nuisance. The Corporation of Manchester must be regarded at present as the most active in the country in dealing with the smoke nuisance. There was still room for great improvement. It was obviously an unhealthy state of affairs when those charged with the administration of the law saw it broken every hour of the day with stolid indifference, and when sanitary authorities, whose primary function was to protect the health of the people, ignored their duty in one of the most vital particulars.

Dr. Alexander Johnston, Physician-Superintendent of Belvidere Hospital, read a paper on "Infectious Disease Hospitals: their Construction and Management."

The Chemistry and Engineering Section met in the chemistry class-room—Professor Ramsay, the President, in the chair.

The Local Secretary (Mr. Thomson) read the paper prepared by Mr. Alsing, the engineer of the River Purification Works of Glasgow at Dalmarnock. In the paper Mr. Alsing referred to the introduction of sewage into rivers and the need there was for the prevention of the pollution caused. The first action in this direction was in 1844, when Dr. Burke, of Aberdeen, and Mr. Graham, of Manchester, used lime for clarifying the water from the Manchester print-works. From 1844 to 1876 various patents were taken out to remove this pollution, and these included the disposal of the sewage by irrigation on sewage farms; by intermittent downward filtration through land; by natural subsidence and filtration through land; by filtration alone through tanks; and by chemical process. All these had been tried, but these had been gradually reduced until there were now only three processes, namely, filtration through land, the chemical process, and the combination of the chemical process and filtration through land.

Mr. Diggle, Manchester, said that after considerable experience he thought the only way to get purification was that the sewage, after passing through these tanks, should be run over a large area of land, something like 1,500 acres, for such a place as Glasgow.

Mr. D. Balfour, C.E., Newcastle-on-Tyne, said it might now be assumed that the question of the purification of sewage was somewhat of a solved problem. Glasgow was peculiarly situated on an estuary, but he feared that such works as those at Dalmarnock could not be carried out on inland rivers. He, however, considered that Glasgow had set an example for all large towns, as well as for the world, in effectually and successfully dealing with the sewage. Of course, it followed that the amount of chemical treatment depended on the degree of purification desired.

Mr. A. B. M'Donald, City Engineer, Glasgow, read a paper on "Formulæ relating to the capacity, discharge, and velocity of flow in sewers." He pointed out that the capacity of an intercepting or delivery sewer of large size could be easily determined, provided the area of the territory to be drained be fixed, the ultimate population, calculated at 100 persons per acre, and the average water supply per head, were given. To the sewage required to be added the estimated value of rainfall which the sewers were intended to convey.

Mr. Wolf Defries, the Secretary, on behalf of Dr. G. V. Poore, read a paper, in which the author said he had experimented with earth, peat, and sawdust as dry methods of treating urine for sanitary purposes, and he urged the erection of such absorbent urinals in public

buildings, &c., and that the material could be used for top-dressing land, either in gardens or in the field.

The Chairman said that in our present economic state—congregated in large towns—we must make a very distinct treatment of sewage from what was done in villages. He considered it was quite hopeless in large towns to adopt the process suggested by Dr. Poore. Pure sewage, unmixed with refuse from chemical works and the drainage from baths, &c., was easily transformed into matter which was of the greatest possible benefit to the crops. He did not think any other plan than that adopted in large towns could be useful, but in villages and places sparsely populated, the dry treatment should be made compulsory, and thus return to the soil material which was of the utmost value.

Mr. W. A. Bryson, Glasgow, read a paper on "Hospital Machinery," and on behalf of Mr. D. Cameron, Exeter, a paper was read on "Some Sewage Experiments Recently Conducted." The paper stated that through all the processes now in use there ran a strong family likeness, which aimed at clarifying the sewage by the removal of suspended solids—generally by means of chemical precipitants. But the clarification of the sewage, such as it was, by no means solved the problem of sewage disposal. The water had got rid of carrying with it the more soluble organic matter, but the chief difficulty remained. The organic matter originally present in the sewage had not been destroyed, but a large part of it was dealt with as sludge, whose manurial value had been shown to be trifling. He contended that no system for disposing of the sewage could be satisfactory which did not follow as closely as possible the lines laid down by nature, and therefore he set himself to devise a system to which the work of natural agents should be provided to the fullest extent. Of these the septic tank was the outcome. No chemicals were employed; there was no treatment of sewage in the ordinary sense of the term, its purification being accomplished entirely by natural agencies; no power was required, and practically no supervision or labour. The septic tank itself was merely a receptacle designed to favour the multiplication of micro-organisms, and so bring the whole of the sewage under their influence. The tank was of ample size, though not larger than was necessary for chemical precipitants, and was covered so as to exclude light, and as far as possible air. The incoming sewage was delivered below the water line, and the outlet was also submerged. That was with the twofold object of keeping out the air and avoiding disturbunce of the contents of the tank. On entering the tank, however, the heavier solids sank to the bottom, and the lighter solids rose to the surface. Organisms increased rapidly and attacked all the organic matter, and by their action the more complex organic substances were converted into simpler compounds, and the ultimate products of the tank were water, ammonia, carbonic acid, and other gases. No sludge was formed, examination of the tank only revealing a thin layer of black earthy matter—the burnt-out ash of the solids of the sewage, together with the grit brought down by storm water. The larger part of the solids were found at the top in the form of scum. The contents of the septic tank were afterwards filtered, and the result was an effluent quite free from smell, showing some trace of colour, if not absolutely colourless.

In the evening the members of the Congress were entertained by the Corporation to dinner in the City Hall. The Hon. the Lord Provost, Sir James Bell, Bart., presided.

The sittings of the Institute were brought to a close on Tuesday, in the Glasgow University Buildings, Gilmorehill.

The Municipal and Parliamentary section met in the Greek class-room, and Ex-Lord Provost Ure, Glasgow, said that when the paper on "The Administration of the Law in relation to Smoke Nuisance" was under consideration on the previous day, he took occasion to speak pretty strongly against the method in which the law had been administered in Glasgow, and he put before them several reasons why that, he thought, might be greatly improved. He did so in the hope of probably influencing the magistrates to take a more active cognisance of the emission of smoke than they had done for a considerable time past. The chairman had suggested that he should frame a resolution embodying his views, which he had done. It was as follows:—

"Resolved, that the information put before the section shows that the undue emission of smoke from the chimneys of mills and factories can be prevented by careful firing or mechanical stokers, and without causing extra expenditure to the owners; it is desirable that the authorities of Glasgow should enforce the smoke-prevention clauses in their local Act more stringently than they have hitherto done."

Mr. Washington Lyon, London, seconded the resolution. He referred to the comparative absence of black smoke in the metropolis contrasted with Glasgow, which he attributed to the greater stringency with which the law was enforced.

Councillor Brown, Edinburgh, thought it would be unfortunate if the resolution were confined to Glasgow. He suggested that it should be altered so as to include hotels and public buildings, and to provide that the smoke-prevention clauses in general as well as in local Acts should be more stringently enforced.

Ex-Lord Provost Ure accepted the alteration.

The resolution as amended in the direction suggested by Councillor Brown was unanimously adopted.

The Preventive Medicine Section met in the Humanity class-room—Dr. J. B. Russell in the chair.

Dr. A. K. Chalmers, secretary of the section, read a paper by Mr. Sydney Barwise, M.O.H., Derbyshire, on recent progress in sewage purification. He described various methods of precipitation at present in use, pointing out the advantages of each. In dealing with sludge, he remarked, no improvement had taken place. The solution, he believed, would be found in the drying of the sludge instead of pressing it. In closing, he referred to the necessity for a standard of purity for the effluent. Parliament had not fixed a standard, but officers of health who had to administer the River Pollution Prevention Act were compelled to adopt one. Such a standard should be so low that all authorities could comply with it, and so high that in no circumstances could the effluent create a nuisance.

Dr. Ebenezer Duncan submitted the following resolution:—

"That in the opinion of this Congress the cremation of the dead, especially in the case of infectious disease, is a rational and very desirable bygienic process, and the Congress urges upon the British Institute of Public Health to use all proper means of pressing upon the Government the desirability of promoting a measure enabling sanitary authorities, if they so desire, to build crematoria, and conduct them under proper supervision."

Sir Henry Littlejohn seconded the motion, and it was unanimously adopted.

The Chemistry and Engineering section resumed its sittings in the Chemistry class-room—Mr. Alfred E. Fletcher in the chair—when Mr. J. C. Melliss read a paper contributed by himself in conjunction with Mr. W. Fairley on the works for the collection and disposal of sewage of the parishes of Richmond, Barnes, Mortlake, Kew, and Petersham.

The closing meeting of the Congress was held at noon in the Bute Hall. The Lord Provost presided, and with him on the platform were Professor Smith, London, and ex-Bailie Crawford, Glasgow. The resolutions adopted in the various sections were reported and formally confirmed.

Votes of thanks were afterwards passed to the various local bodies who have promoted the success of the meeting of the Congress.

The above account of the proceedings of the British Institute of Public Health has been abstracted from the full and able reports which have appeared in the *Glasgow Herald* from day to day during the sittings of the Congress.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A SPECIAL general meeting of this Institute was held on the 27th ult., Professor Aitchison, A.R.A., President, occupying the chair.

The minutes of the special general meeting of July 6 having been adopted, the election of the following candidates for Fellowship under by-laws 7, 8, and 9 took place. The following applicants, found by the Council to be eligible and qualified according to the Charter and By-laws, were elected as Follows:—C. H. Worley, London; F. W. Mee, Manchester; H. A. Prothero, M.A., Oxon., Cheltenham; A. C. A. Norman, Sĕlângor, Straits Settlements; Beresford Pite, London; W. L. Mason, Ambleside; F. G. Knight, London; F. T. Verity, London; J. T. Perry, London; F. H. Reed, London.

A long discussion then took place on the proposed reform in regard to the election of Fellows.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of this Council was held on Tuesday in the County Hall, Spring-gardens, Sir Arthur Arnold, Chairman, presiding.

Loans.—On the recommendation of the Finance Committee it was agreed to lend the Hammersmith Vestry 13,000*l.* towards the cost of erecting a town-hall and Vestry offices; the Hampstead Vestry 30,000*l.* for electric lighting purposes; the Vestry of St. George-in-the-East 1,330*l.* for a local improvement scheme; the Islington Guardians 53,000*l.* for the purchase of land upon which is situated the disused small-pox hospital in Upper Holloway; the Guardians of Stepney 1,135*l.* for sundry works at Bromley Workhouse; the Kensington and Chelsea School District 1,600 for the purchase of sixteen acres of freehold land at Banstead; and the Asylums Board 100,000*l.* for expenditure on the Park hospital.

Chief Officer of the Fire Brigade.—The General Purposes Committee, in reporting upon the terms of the appointment of a new chief officer of the Fire Brigade, recommended that the salary be 1,000*l.* a year and travelling expenses, on the distinct understanding that no pension be granted to him.

Mr. Cornwall moved an amendment standing on the paper in the name of Mr. Beachcroft, "That the salary be 900*l.* a year, with such pension as attaches under existing regulations."

Colonel Ford seconded the amendment, which, on a show of hands, was carried by a large majority. It was also agreed that the limits of age of candidates should be 30 and 50.

A further recommendation of the General Purposes Committee, "That the following be a regulation under the Metropolitan Fire Brigade Act, 1865:—In the case of the chief officer of the Fire Brigade the Council may, on his leaving the force, if the Council shall in its discretion consider there are special circumstances which render it just or expedient, grant to him, or may, in the event of his being killed in the discharge of his duty, grant to his widow and children, or either, a gratuity of such amount as it may think fit," was agreed to.

Schedule of Prices for Jobbing Works.—The report of the same Committee contained the following paragraph, the recommendation being agreed to.

"The Council has allowed the following percentages above the schedules of prices for jobbing works, viz., 12½ per cent. for works done under the supervision of the architect, and 10 per cent. for works done under the supervision of the engineer. The schedule of prices in respect of hoarding and shoring works is the same as that to which contractors worked previously to the work of hoarding and shoring being done by the Works Department, and no percentage has up to the present been added to those prices. The Works Committee have pointed out that, owing to the advance of the rate of wages granted to bricklayers from May 1 last, to carpenters and joiners from June 1 last, and to plumbers and smiths, fitters, &c., from August 1 next, it will be necessary to increase the percentage to be added to the trades referred to in the schedules of prices for jobbing works. We recommend—'That the rates per cent. allowed above the schedules of prices for jobbing works be respectively increased by 2½ per cent. as regards bricklayers' work as from May 1 last; as regards carpenters' and joiners' work as from June 1 last; and as regards plumbers', smiths' and fitters' work, as from August 1 next.'"

Arbitration Clause in Conditions of Building Contracts.—The same Committee reported as follows in reference to an arbitration clause in conditions of building contracts:—

"On the 7th inst. the Council adopted the following arbitration clause for insertion in the conditions of building contracts, viz.:—If at any time, and so often as the same may happen before the architect shall have given his certificate of the completion of the works under this contract, any difference or dispute shall arise between the Council or the architect and the contractor with regard to the construction of this contract, or as to the rights, duties, and liabilities of the Council or the contractor under this contract, or as to the due performance of the contract by the contractor, or as to any matter or thing arising out of or in connexion with this contract, the same shall (except in those cases where, under any clause of this contract, it is otherwise provided, or the decision, judgment, requisition, certificate, or order of the architect is to be final), be referred to the architect as sole arbitrator, and the contractor shall carry out and complete the works and maintenance in accordance with the award of the architect, which, subject to the proviso hereinafter contained, shall be final and conclusive between the parties hereto, provided always that if the contractor shall be dissatisfied with any such

award of the architect as aforesaid, and shall within days after the date thereof give notice in writing to the Council of such dissatisfaction, stating the grounds thereof, and requiring that the dispute or difference, the subject matter of such award, shall be referred to the decision of an independent arbitrator, then, after the architect shall have given his certificate in writing after the completion of the works under this contract, all disputes and differences, the subject matters of awards by the architect in respect whereof the contractor shall have given such notice as aforesaid within the time aforesaid, shall be referred, but so far only as the final settlement of accounts between the parties is concerned to the award and decision of

or, in the event of his death or inability or unwillingness to act, of such architect as on the application of either party hereto may be appointed by the President for the time being of the Royal Institute of British Architects, as final arbitrator, and the award of such final arbitrator shall be final and conclusive and binding on the parties hereto, and any amounts found thereby to be payable either by the Council to the contractor or by the contractor to the Council shall be payable and be paid within twenty-one days from the date of such award, and the provisions of the Arbitration Act of 1889 shall apply to any arbitration under this clause.

It has been suggested to us that the clause referred to might be applied in settling questions that may arise between the officers of the Works Committee and the certifying officers of other departments of the Council in connexion with works carried out by the Works Committee. We concur in this suggestion, and accordingly recommend—'That the principle of the clause adopted by the Council on July 7 for its building contracts by which a reference is allowed to an independent arbitrator in certain cases of dispute between contractors and the certifying officers of the Council be applicable to the settlement of any questions that may arise between officers of the Works Committee and the certifying officers of the Council in connexion with works carried out by the Works Committee.'"

Mr. Beachcroft moved the following amendment: "That the Council is of opinion that some arrangement is required for the settlement of disputes between the certifying officers of the Council and the officers of the Works Department, and accordingly resolves that such disputes be in future referred to the General Purposes Committee."

Mr. H. Clarke seconded, but after some discussion the amendment was, on a division, negatived, 51 voting for, and 52 against. The recommendation of the Committee was then agreed to.

Widening of Fleet-street.—The Improvements Committee reported that they had received a letter from the City Commissioners of Sewers, stating that a favourable opportunity was presented for widening Fleet-street, by acquiring No. 89, and asking the Council to contribute part of the cost of setting back the premises. The present width of the street was about 45 ft., and it was proposed to increase this to 60 ft. The owner of the property asked 7,160*l.* for the land proposed to be added to the public way, but it was hoped to reduce that amount. The Committee recommended that the Council should contribute one-half the cost, namely 3,580*l.*

Mr. Dickinson moved as an amendment that the matter should be referred back to the Committee, which was seconded by the Rev. F. Williams, but rejected, and the recommendation of the Committee was adopted.

Salvationists and the Agricultural Hall.—The Theatres and Music Halls Committee recommended that permission be granted for a proposal to fit up the ground floor and gallery of the Royal Agricultural Hall, Islington, in connexion with the forthcoming Salvation Army exhibition, which will be held from August 1 to 10 next inclusive. It is desired by the management to use the new minor hall at these premises for the purpose of addresses and to provide seating accommodation therein for 1,700 persons, *i.e.*, 1,400 in the body of the hall and 300 on a raised staging. The drawings for the construction of this hall were approved by the Council on April 9, 1895, upon condition that the hall should be used for exhibition purposes only, and not for a seated audience; but the managing director of the Company stated that it is of vital importance to the prospects of the exhibition that permission should be obtained to use the hall for a seated audience on this special occasion. He undertakes, if permission is given, to respect the wishes of the Council in every way in regard to the arrangement of the seats, &c., and to have two extra firemen on duty during the time the hall is being used for the purpose of the meeting.

Mr. Roberts said that the Agricultural Hall was not built for seating purposes. The emotional temperament of the Salvationists might easily lead to a panic. After some discussion the permission was conceded.

The East-End Water Famine. — Mr. W. H. Dickinson (Chairman of the Water Committee), in reply to questions, said that a great portion of the extra storage works authorised in 1894 for the East London Company, had been completed, and he could not understand how the company was not in a better position this year than in 1895 to meet the drought. As to the notice, he was given to understand that it had been now reduced to two hours, and with regard to the question whether the Government had done anything to prevent a water famine, the Government had done nothing to prevent it by Act of Parliament. If, however, the Council's Water Bills had gone through Parliament, they would have been in a position to exercise the duty of supplying water in the metropolis, and in that case he believed they would have been able to make arrangements whereby a famine would have been prevented. He made that statement because, from the most recent figures that had been supplied, he made out that there must be available between 15,000,000 and 20,000,000 gallons of water for London, which could be obtained by one or other of the companies. In his opinion, moreover, the various companies, if they were to work in harmony, were in a position to give something like 18,000,000 to 20,000,000 gallons a day to any other company in distress, and if the Council had been in possession of these eight companies they would be in a position to prevent the existing state of things.

Dwelling Houses on Low-lying Land.—On the recommendation of the Building Act Committee the following recommendation was agreed to:—"That the solicitor do prepare a licence, under Section 122 of the London Building Act, 1894, to Mr. T. J. Young, for the erection of five dwelling houses on low-lying land situated on the north side of Bostall-lane, Plumstead, in accordance with the plan submitted with his application, dated July 10, 1896; that the seal of the Council be affixed to such licence when ready, and that it be issued to the applicant."

Fortune Green, Hampstead.—On the motion of Mr. Wetenhall, the Council agreed to contribute 3,000*l.* towards acquiring Fortune Green, Hampstead, an area of about 2½ acres, as a recreation ground. The total cost was 8,000*l.*, towards which the Vestry of Hampstead had promised to contribute 3,000*l.*, and the Vestry would maintain the ground when acquired.

The Council adjourned soon after 8 o'clock until October 6.

BUILDERS' BENEVOLENT INSTITUTION:

ANNUAL MEETING.

The forty-ninth annual meeting of this Institution was held on the 23rd ult., at the offices, 35, Southampton-row, Bloomsbury. Mr. J. T. Bolding presided, supported by Messrs. Thomas Stirling, G. J. Lough, R. Perkins, Henry Holloway, and other friends of the Charity.

Major Brutton (secretary) read the annual report, in which the Committee congratulated the subscribers upon the income from all sources having been sufficient to meet the expenditure of the year. This was greatly due to the active exertions of the President, Mr. John Mowlem Burt, in his advocacy of the merits of the Institution. The Committee trusted that the subscribers would continue to do all in their power to support the Charity, as it was only by united help that it could be supported. The Committee alluded with much regret to the death of Mr. Charles Lucas, one of the trustees, who, both individually and as a member of the firm of Messrs. Lucas Bros., was a munificent contributor to the Institution. He was President in 1855, thus showing the number of years he had been associated with the Charity. The name would, happily, not be separated from the Institution, as Mr. Arthur Lucas had consented to be a trustee. During the past year four pensioners had been elected, and there had been nine deaths from amongst the pensioners. The Committee had the satisfaction of announcing that Mr. Henry Holloway, of the firm of Messrs. Holloway Bros., had consented to be President for the ensuing year, and that the annual dinner would be held at the Carpenters' Hall, London-wall, on Thursday, December 3.

The Chairman proposed the adoption of the report and balance-sheet, which was seconded by Mr. R. Perkins, and unanimously agreed to.

On the motion of Mr. Thomas Stirling, seconded by the Chairman, a cordial vote of thanks was passed to Mr. J. Mowlem Burt for his exertions on behalf of the Institution.

Votes of thanks were also passed to the Vice-Presidents, the Auditors, and the Committee, the retiring members of which were re-elected, with the addition of Mr. J. Mowlem Burt and Mr. E. B. New.

On the motion of the Chairman, seconded by Mr. Lough, Mr. Henry Holloway was elected President for the coming year.

Mr. Holloway replied, and promised to do his utmost for the good of the Charity.

A vote of thanks to the Chairman closed the proceedings.

APPLICATIONS UNDER THE 1894 BUILDING ACT.

The recommendations in regard to the following applications under the London Building Act, 1894, were agreed to at the last meeting of the London County Council. Conditions are attached to those applications which were agreed to, but which we have not space to print:—

Lines of Frontage.

Islington, North.—That consent be given to the erection of an additional story to a shop in front of No. 2, Tollington-road, Holloway, on the further application of Mr. F. Wallen, on behalf of Mr. W. Beale.

Lewisham.—That consent be given to the erection of eleven houses with shops on the north side of Brownhill-road, Catford, westward of Torridon-road, on the further application of Mr. W. S. Walker, on behalf of Mr. A. C. Corbett, M.P.

Lewisham.—That consent be given to the rebuilding of the "Two Brewers" public-house, Perry-hill, on the application of Messrs. J. and A. E. Bull, on behalf of Mr. Eldon.

Brixton.—†That consent be not given to the erection of an iron and glass covered way in front of Avondale Hall, Landor-road, Stockwell, on the application of Messrs. Vaughan & Brown, Limited, on behalf of Mr. H. Osmond.

Chelsea.—†That consent be not given to the erection of an iron and glass covered way in front of Hans-place Hotel, Hans-crescent, on the application of Messrs. Read & Macdonald on behal fof the Hans-place Hotel Company.

Dulwich.—That consent be given to the erection of porches to twenty-four houses on the west side and to five houses on the east side of Beauval-road, Lordship-lane, on the application of Mr. W. H. Duffield on behalf of Mr. R. Adams, Mr. J. Beavan, and Mr. W. J. Goldsworthy.

Dulwich.—†That consent be not given to the erection of a one-story shop on the south side of No. 205, Crystal-palace-road, East Dulwich, to abut upon Silvester-road, on the application of Mr. J. W. Stevens on behalf of the trustees of Free's Estate.

Fulham.—That consent be given to the erection of residential flats, with bay windows, on the east side of Mornington-avenue, between No. 24 and Mr. Whiteley's premises, on the application of Mr. W. H. Gibbs.

Hampstead.—That consent be given to the construction and erection of an open porch on the east side of Carisbrooke-cottage, Elsworthy-road, on the the application of Mr. Willett.

Islington, North.—That consent be given to the retention of a tool-shed, erected without the Council's sanction, at the rear of "Halesworth," No. 56, Crouch-hill, and abutting upon Blythwood-road, on the application of Mr. F. L. Dove.

Kensington, South.—†That consent be given to the erection of porches, five-story bay windows, and projecting balconies to two blocks of residential flats on the north side of Richmond-road, Earl's Court-road, on the application of Messrs. Cubitt, Nichols, Sons, & Chuter, on behalf of Messrs. H. and A. Harris.

Lambeth, North.—That consent be not given to the erection of a one-story shop-front to a portion of the "Pineapple Tavern," Nos. 53 and 55, Hercules-road, on the application of Mr. J. H. Hart.

Lewisham.—That consent be not given to the erection of a public hall on the west side of Silverdale, Sydenham, on the application of Mr. P. Currey.

Lewisham.—†That consent be not given to the erection of six houses with projecting bay windows on the north side of The Retreat, Catford, westward of Brookdale-road, on the application of Mr. A. C. Symes, on behalf of Messrs. Johnson and Aldridge.

Marylebone, East.—That consent be not given to the erection of a one-story addition in front of "The Red House" hotel, No. 31, Park-road, St. John's Wood, on the application of Mr. A. J. England, on behalf of Mr. J. R. Hands.

Paddington, South.—That consent be given to the erection of an additional story to the porch on the north side of No. 14, Hyde Park-gardens, on the application of Messrs. Ernest George and Yeates, on behalf of Mr. B. F. Hawksley.

Peckham.—†That consent be not given to the erection of a shop and dwelling-house on the site of No. 113, Queen's-road, on the application of Mr. W. G. Shoebridge, on behalf of Mr. G. Crutcher.

Rotherhithe.—That consent be given to the erection of an open iron foot bridge from Crown Wharf to the opposite side of Shad Thames, St. Olave, Southwark, on the application of Messrs. Carbutt & Co.

Rotherhithe.—That consent be given to the erection of an open iron foot bridge across Shad Thames, St. Olave, Southwark, on the application of Messrs. C. Brown & Co.

St. George, Hanover-square.—That consent be given to the erection of a balcony at the first-floor level in front of No. 13, Clarges-street, Piccadilly, on the application of Mr. F. E. Eales, on behalf of Sir R. Rycroft, Bart.

St. George, Hanover-square. — That consent be given to the erection of a projecting hood over the entrance to, and of balconies at the first and second floor levels on the west side of, a proposed house on the north side of Aldford-street at the corner of Street's-mews, also to the erection of a projecting hood over the entrance to a proposed house on the south side of Mount-street, on the application of Messrs. Balfour & Turner, on behalf of Mr. W. H. Warner.

Strand.—That consent be not given to the erection of a three-story oriel window to "The Falcon" public-house, No. 20, Wardour-street, Soho, and to abut upon also Lisle-street, on the application of Mr. W. G. Shoebridge, on behalf of Mr. I. J. Russell.

Westminster.—That consent be not given to the erection of two iron and glass porches to Nos. 109, 111, 113, and 115, Victoria-street, one to abut upon that street and the other upon Francis-street, on the application of Mr. C. J. C. Pawley, on behalf of Mr. W. Goodwin.

Line of Fronts and Width of Way.

Woolwich.—That consent be not given to the erection of buildings on the north-west side of Lakedale-road, Plumstead, at the corner of Conway-road, and the widening of a portion of the latter road, on the further application of Mr. J. O. Cook, on behalf of the Royal Arsenal Co-operative Society.

Width of Way.

City of London.—† That sanction be not given to the erection of seven warehouses on the site of Nos. 1 and 2, Cox's-court, and Nos. 1, 1½, 2, 3, 4, 5, 6, 7, 8, 9, and 10, Montague-place, on the application of Mr. C. Bell, on behalf of Mr. G. Wheeler.

Stepney.—That consent be given to the erection of houses on the east side of Skidmore-street, Whitehorse-lane, on the further application of Mr. E. Jackson.

Woolwich.—That consent be given to the erection of four houses on the north-east side of Willenhall-road, Plumstead, with the forecourt fence, on the application of Mr. H. H. Church, on behalf of Mr. E. J. Brady.

Bermondsey. — That consent be given to the erection of an addition to the "Prince Consort" public-house, No. 210A, New Kent-road, to abut upon Paragon-mews, on the application of Messrs. Lawson Brothers, on behalf of Mr. W. J. Huxley.

Greenwich.—That consent be not given to the construction and erection of a temporary wood and iron store-room on the south side of Copperas-street, Creek-road, Deptford, on the application of Mr. W. Harbrow, on behalf of the Lawes Chemical Manure Company, Limited.

Kensington, South.—That consent be not given to the erection of twelve houses upon land at the rear of Philbeach Gardens, Warwick-road, adjoining St. Cuthbert's Hall, on the application of Mr. H. R. Gough, on behalf of Mr. W. H. Gibbs.

Limehouse.—That consent be given to the construction and erection of a covered way and latrine upon a portion of the forecourt of St. Anne's National Schools, Dixon-street, on the application of Mr. J. R. Smith, on behalf of the trustees of the schools.

St. Pancras, West.—That consent be not given to the erection of outside steps, and of an addition to the manure-pit in front of Nos. 1 and 2, St. George's-mews, Regent's Park, on the application of Mr. J. A. Leggett.

Southwark, West.—That consent be not given to the erection of a building with a projecting iron staircase upon part of the forecourt of Hanbury's Wharf, Upper Ground-street, Blackfriars, on the application of Mr. A. W. Osborn, on behalf of Messrs. Vestey Bros.

Line of Fronts and Space at Rear.

Islington, North.—† That consent be not given to the erection of a dwelling-house on the north side of Stapleton Hall-road, adjoining the Stroud Green-road Conservative Club, and the erection of four houses with shops, and an office with dwelling-rooms over, on the south-east side of Mount Pleasant-road, between No. 1, Stapleton Hall-road and Messrs. Pryor & Sons' timber-yard; that the Council, in the exercise of its powers under Section 41 of the London Building Act, 1894, do not allow of a modification of the provisions of that section with regard to open spaces about buildings so far as relates to the provision of an irregular open space at the rear of the proposed buildings in Mount Pleasant-road, and that the Council do not sanction a modification of the provisions of Part V. of that Act, relative to the extension above the diagonal line, as directed to be drawn, so far as regards portions of the rear of the proposed new buildings in that road, on the application of Mr. A. Bedborough, on behalf of Mr. W. Andrews.

Formation of Streets.

Fulham.—That an order be sealed and issued to Mr. W. C. Poole, sanctioning the formation or laying out of two streets, each 40 ft. wide, for carriage traffic, to lead out of Stephendale-road into Townmead-road, on application to the Council. That the names Althea-street and Hamble-street be approved for the new streets.

Woolwich.—That an order be sealed and issued to Mr. F. Curtis, refusing to sanction the formation or laying out for carriage traffic of an extension of Dock-street, North Woolwich, and the erection of five houses on the west side of such extension, on his application to the Council, on behalf of Mr. A. Parker.

Building for the Supply of Electricity.

Hammersmith.—That the Council do approve of the modified plans, dated May 28, 1896, submitted with the application of the Vestry of Hammersmith, for the construction of a generating station and works on the east side of Fulham Palace-road, at the rear of the houses on the north side of Yeldham-road, and that the Council do also authorise the erection of such generating station and works.

Southwark, West.—That the Council do approve of the plans, dated June 24 and July 10, 1896, submitted with the application of Mr. C. Thompson, on behalf of the City of London Electric Lighting Company, for the construction of an addition to the boiler house at the Company's premises, No. 64, Bankside.

Conversion of Buildings.

Hampstead.—That consent be not given to certain proposed alterations to Nos. 79 and 80, High-street, on the application of Mr. E. E. White, on behalf of Mr. Woolrych.

Height of Buildings.

City of London.—That consent be given to the erection of a warehouse and angle-turret at No. 59a, Farringdon-street and Nos. 22 and 24, Farringdon-avenue, to exceed in height the width of the latter street, on the application of Mr. P. B. Gibb, on behalf of Mr. E. Spurr.

Cubical Extent.

Bermondsey.—That consent be not given to the erection of two additional stories to a drying shed at "The Grange" tannery, Spa-road, together exceeding in extent 250,000, but not 450,000 cubic feet, and to be used only for the purpose of the trade of a tanner, on the application of Messrs. G. Elkington & Co., on behalf of Mr. W. Whitmore.

Space at Rear.

Clapham.—That the Council do, in the exercise of its powers under Section 41 of the London Building Act, 1894, allow a modification of the provisions of that section with regard to open spaces about buildings, so far as relates to the proposed erection of two cottages on the north side of Nine Elms-lane, adjoining the Council's Heathwall pumping-station, with an irregular space at the rear of such cottages, on the application of the Council's Main Drainage Committee.

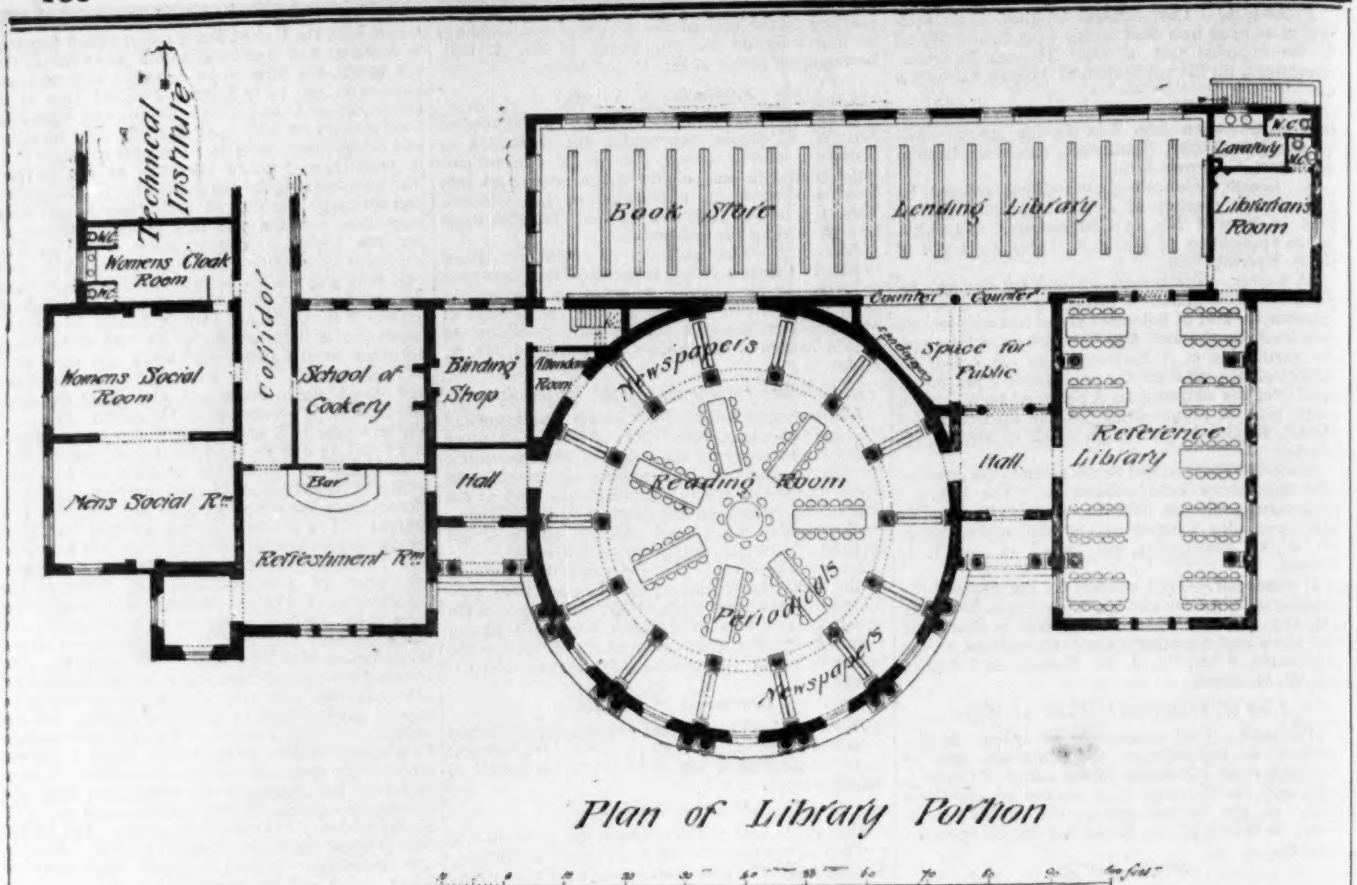
The recommendations marked † are contrary to the views of the Local Authorities.

ENGINEERING TRADES' REPORT.

MESSRS. MATHESON & GRANT, in their half-yearly engineering Trades' Report, state that the improvement recorded last January, and referred to in their intermediate report of April, has continued in almost all branches of the engineering trades, and prospects are the more favourable because the progress till now has been steady and wide-spread. *Coal*, as used by engineers and steel makers, is as cheap as it was a year ago, the output having increased even more than the improved trade of the country calls for. The large coal owners of the various districts seem unable to agree either among themselves or with the miners in such a way as will prevent the excessive supply, and their competition has brought prices to a point quite unremunerative to any but the largest and best equipped collieries. The truce between masters and men in regard to wages expires next month, and as the men are unwilling to concede any reduction in wages, it is not improbable that there may be a struggle in the autumn, before the terms of a new agreement can be arrived at. If such disputes hinder seriously the getting of coal, the results may be disastrous to the chief industries of the country. *Iron and Steel.*—There has been practically no change in the prices of pig iron; any alterations since January being downwards. At the first sign of reviving trade last year, more furnaces were put in blast, fuel has been cheap, and besides this the modern improved methods of manufacture, stimulated by competition and by foreign examples, have tended to a greater production per furnace than ever has been known before and at a less rate of fuel consumption. If, however, the number of furnaces in blast remain as at present, a moderate increase in the demands of steel makers and engineers will soon raise the prices of pig iron. There have been a few shipments from the United States and the blast furnaces in Alabama and Tennessee within easy reach of the sea board, will have to be reckoned with as competitors in the early future. Finished iron is in better demand, and prices are tending upwards. Steel makers are busy in all districts; steel for ships and bridges costs from 5s. to 10s. per ton more than in January, and prices are likely to rise further. The union among the rail makers is still maintained, and although the cost of production is only little more than it was a year ago, prices of rails are 1*l.* per ton higher. The tendency of the railway engineers is towards heavier permanent way, and rails weighing 100 lbs. per yard are likely to become the standard for the principal main lines. Steel makers at Sheffield are busy in almost all departments, as well in armour plates and other heavy branches, as in springs, wheel-tires, and other railway equipment. The steel makers in Germany and the United States are also fairly engaged. *Mechanical Engineering.*—Mechanical engineers and machine tool makers are mostly busy. There is no lull in the demand for mining machinery; a new era of locomotion is expected by many from the introduction of road engines, or automotors, but these anticipations are probably premature. The removal of the existing legislative restrictions to the use of engines on the highways will doubtless encourage and extend their use, but none of the machines yet available are satisfactory. Oil or gas engines seem to offer the most likely method, and the present opportunities and experience may tend to the removal of certain imperfections that still retard their progress. Mechanical haulage on tramways is receiving increased attention, now that corporations appear willing to expend public funds in providing facilities already available in other countries. The system of haulage by wire-rope cables seems hardly likely to be extended; the overhead electric trolley system is most in favour, but presents many drawbacks; while the alternative conduit electric system is not yet sufficiently perfected to justify its adoption. But whichever of these methods ultimately prevails, considerable expenditure on steel, iron, and machinery must result, which will be beneficial to the engineering trades of the country. *Locomotives and Rolling Stock.*—The demand for locomotives has, during the last twelve months, been gradually overtaking what, for the last four years, has been a super-abundant power of supply. All the works may be said to have orders in hand, which will occupy them for the next six months, so that, in regard to new business already in view and which can scarcely be postponed, manufacturers may look for more remunerative prices. *Portland Cement.*—There has been a steady though slight improvement in prices for some months past, and it appears likely to continue. This change is, however, occasioned rather in connexion with the home than of the export trade. The manufacture of Portland cement is now being carried on abroad, in many places where a few years ago the whole of the cement was imported. *Public Works* are likely to absorb more of the capital of the country than during recent years. At home there is a considerable expenditure at present in railway extensions. The leading lines, besides having to renew and strengthen bridges to meet the heavier rolling stock now in use, are also compelled to provide increased station accommodation. The Manchester, Sheffield, and Lincolnshire Railway to London is being rapidly pushed forward, and will lead to further developments and additions. The contracts for the London Central Railway have been let during the last two months. This line, which is about ten miles long, is likely to inaugurate a new system, for by its depth of 70 ft. below ground, where the tunnel pierces the hard clay stratum, it will avoid the claims for compensation, which have rendered previous lines in the metropolis so costly. The proposed system of traction by electrical power on this railway will be new and interesting. The underground railway in Glasgow under the streets and river is near completion. Abroad, the distinct revival in South America is benefiting engineers and manufacturers here, as the railway and other works going on in Brazil and Argentina are mainly under British direction and enterprise. Western Australia having followed South Africa as a field for mining operations, New Zealand and British Columbia are also now successfully inviting the investment of capital, and arising out of the mining schemes, railways in almost all cases become necessary.

ARCHITECTURAL SOCIETIES.

DEVON AND EXETER ARCHITECTURAL SOCIETY.—By invitation of Mr. Charles King, the Chairman of the Three Towns branch of the Devon and Exeter Architectural Society, the members paid a visit to Buckland Abbey on the 25th ult. On arrival at Yelverton, the party proceeded to Buckland, and were there joined by others. Through the kindness of Mrs. Phillips, the Abbey was open to the members, who, under the guidance of Mr. King, examined what remains of the ancient Cistercian Monastery. The party first inspected what was originally the church, and had pointed out to them various fragments of interesting architectural detail, as the



Plan of Library Portion

West Ham Public Library and Technical Institute.

remains of vaulting ribs, the tower, with a charming old fireplace on the second floor, with its richly-ornamented overmantel, bearing the shield, crest, and motto of Sir Francis Drake in plaster. The hall of the present house is rich in Jacobean panelling and carving in oak, which loses a great deal of its character by being painted over. From here Mr. King directed the company to the barn. As was generally the case, it is of considerable size, firmly and substantially built, and strengthened with buttresses. It is easily distinguished by the small size of its windows, which could never have been intended but to give air to the interior, as they scarcely admit any light. It also possesses the usual huge doorways and open timbered roof. The portraits, maps, charts, and other relics formed a very interesting study. The grounds were subsequently visited, the noble yews and cedars being greatly admired. At the conclusion of the visit, Mr. King, on behalf of the Society, conveyed to Mrs. Phillips the best thanks of the members for her kindness in allowing the Society to visit the Abbey and grounds. The party then returned to "Drakeleat," Yelverton, the picturesque residence of Mr. King, who, in conjunction with Miss King, entertained the members to tea. This over, the party returned to Plymouth. The August visit will be to Dunster, in conjunction with the Bristol Society of Architects, and the September meeting will take place at Truro, a visit being paid to the Cathedral.—*Western Daily Mercury.*

Illustrations.

DESIGNS FOR PALACES FOR THE PARIS EXHIBITION OF 1900.

WE have already noticed at some length (see our issue for July 18) the leading designs in the competition for the two principal permanent buildings to be erected in connexion with the Paris Exhibition of 1900; and in last week's issue we announced that the first premium for the larger palace had been awarded to M. Louvet, and that for the smaller one to M. Girault.

We now give the principal elevations of these two designs, on which we have already commented in our review of July 18. The larger palace is intended to take the place of the Palais de l'Industrie and to serve the same purposes. Unfortunately, it appears that neither this nor any of the designs for the larger palace have satisfied the authorities, and that the general architect to the exhibition, M. Bouvard, is to create a fresh design on the basis of the best points in some of the designs submitted. The result may perhaps be architecturally better, but it seems a lame conclusion to a very important competition, and hardly a fair treatment of the competitors. M. Louvet's design is not very striking or original, but if it was good enough to give the first premium to it ought to be good enough to carry out.

The smaller palace is to contain the "retrospective collection" of works of art in the 1900 exhibition, and is subsequently to form the museum for the art-treasures of the Paris municipality. The design, by M. Girault, has received great admiration in Paris, and from a French point of view one can understand that; it is an exceedingly graceful specimen of academical architecture; but we fear it will hardly find so many admirers on this side of the Channel; not that we do not think it excellent of its kind, but it is a school of architecture which, rightly or wrongly, has somewhat ceased to interest us. There will no doubt be a good deal of interesting and refined detail in the building as carried out.

COMPETITION DESIGN FOR TECHNICAL INSTITUTE, WEST HAM

THIS design, the original drawing of which is in the Royal Academy Exhibition, was submitted by Mr. J. M. Brydon in the competition instituted last year for a new Public Library and Technical Institute for West Ham, and noticed at length at the time in our columns. The view shows the public library portion, the plan of which is annexed.

The design of the circular portion shows an obvious reminiscence of the Radcliffe Library. The building was intended to be built of red brick with Portland stone dressings.

"THE BIGGINS," KIRKBY, LONSDALE.

THIS residence has been erected near Kirkby Lonsdale from the designs of the late Mr. W. Verity, of Moot Hall Chambers, Wigan. Unfortunately, this architect died before the work was half done, and it has since been carried on from the designs and under the superintendence of Mr. W. E. V. Crompton, of Wigan.

The whole of the external walls are built of local stone quarried in the neighbourhood, all the dressed facings being of the same material. On account of the scarcity of brick, the internal walls, where plastered, have been built from limestone rubble quarried on the estate.

It will be seen from the sketch plan that the main entrance leads into a large staircase hall which is panelled in oak to a height of about 8 ft. and faced with stone above, as shown in the sketch we reproduce.

The remainder of the ground-floor rooms are panelled in oak, some having oak ceilings and some having ornamental Elizabethan plaster ceilings. The music-room has an arched-shape open roof.

The roofs are covered with red tiles, and the ornamental lead heads and fall pipes have been executed by the local plumbers from designs by Mr. Crompton.

In addition to the house, extensive buildings for the home farm have been erected, and also entrance-lodge and gates.

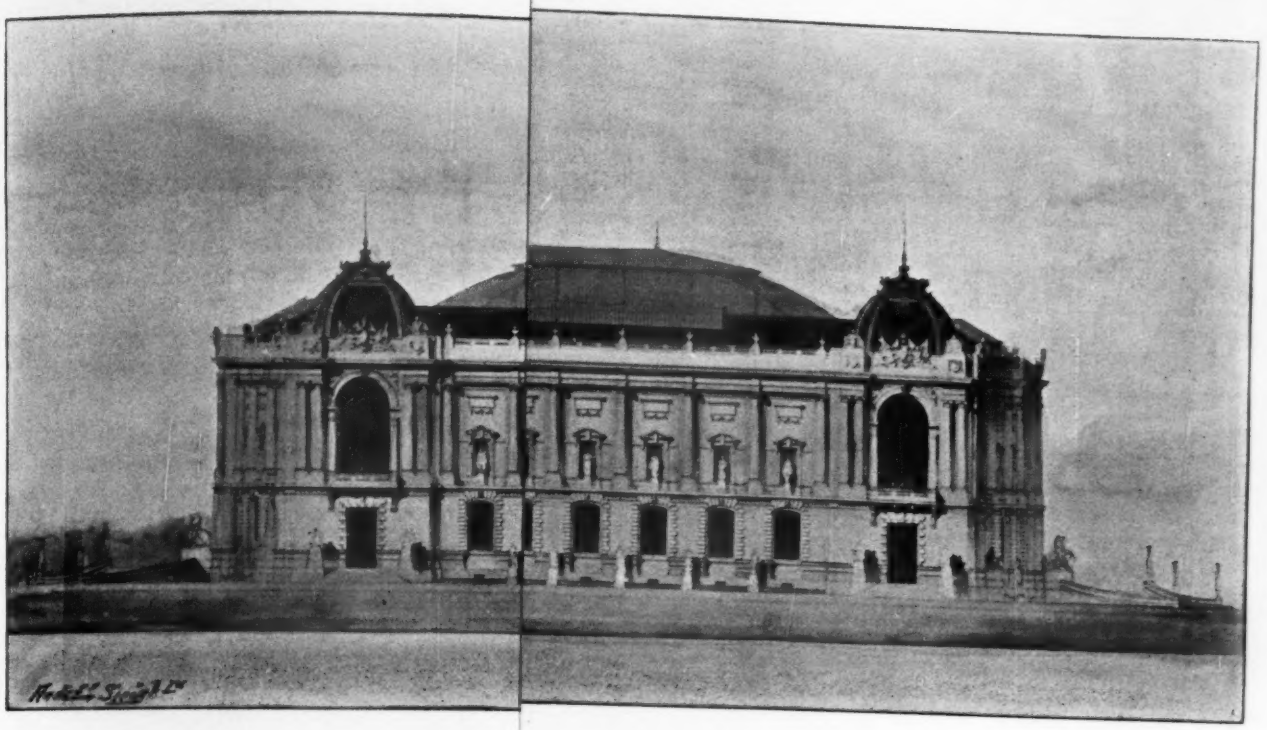
"SPRINGFIELD," EAST GRINSTEAD.

THIS school has been formed by adding to and altering a modern villa residence, and the illustrations respectively show the exterior of the new school-room and chapel and the interior of the latter, which is shortly to be taken in hand. Externally the building is faced with red facing bricks from Burgess Hill, and the dressings are of West Hoathly stone; the tracery of the chapel windows will be of Honeywell stone from Forest Row. Internally the walls are to be red brick, with high dados of oak stained green. The open timber roof is to be executed in fir, and will also be stained green. Mr. John Morris, of Ashurstwood, East Grinstead, was the builder of the first part of the work, Mr. Arthur Edmund Street being the architect.

The drawing of the exterior is exhibited at the Royal Academy.

COMPETITIONS.

CORPORATION LODGING HOUSE, ABERDEEN.—Mr. Simpson, town architect, Leith, has reported to the Lodging House Committee, adhering to his opinion that the design by Messrs. Marshall & Dick, architects, Newcastle, would cost 400*l.* or 500*l.* more than the stipulated sum (9,000*l.*), to carry out, but recommended the Committee to employ that firm as architects, which recommendation was agreed to. By a majority, the previous award of the first premium to Mr. Bruce, Aberdeen, and of the second to Mr. Souttar, Aberdeen, was re-affirmed; and the Committee are left free to make such alterations



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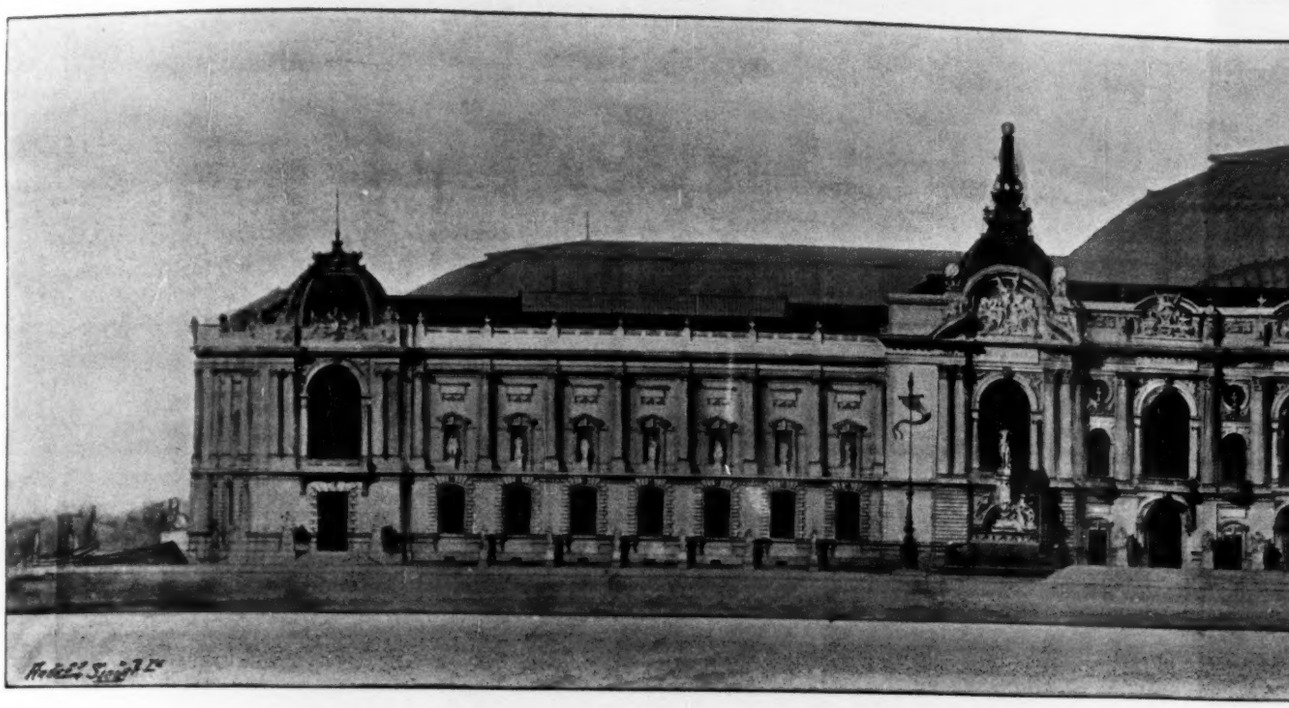
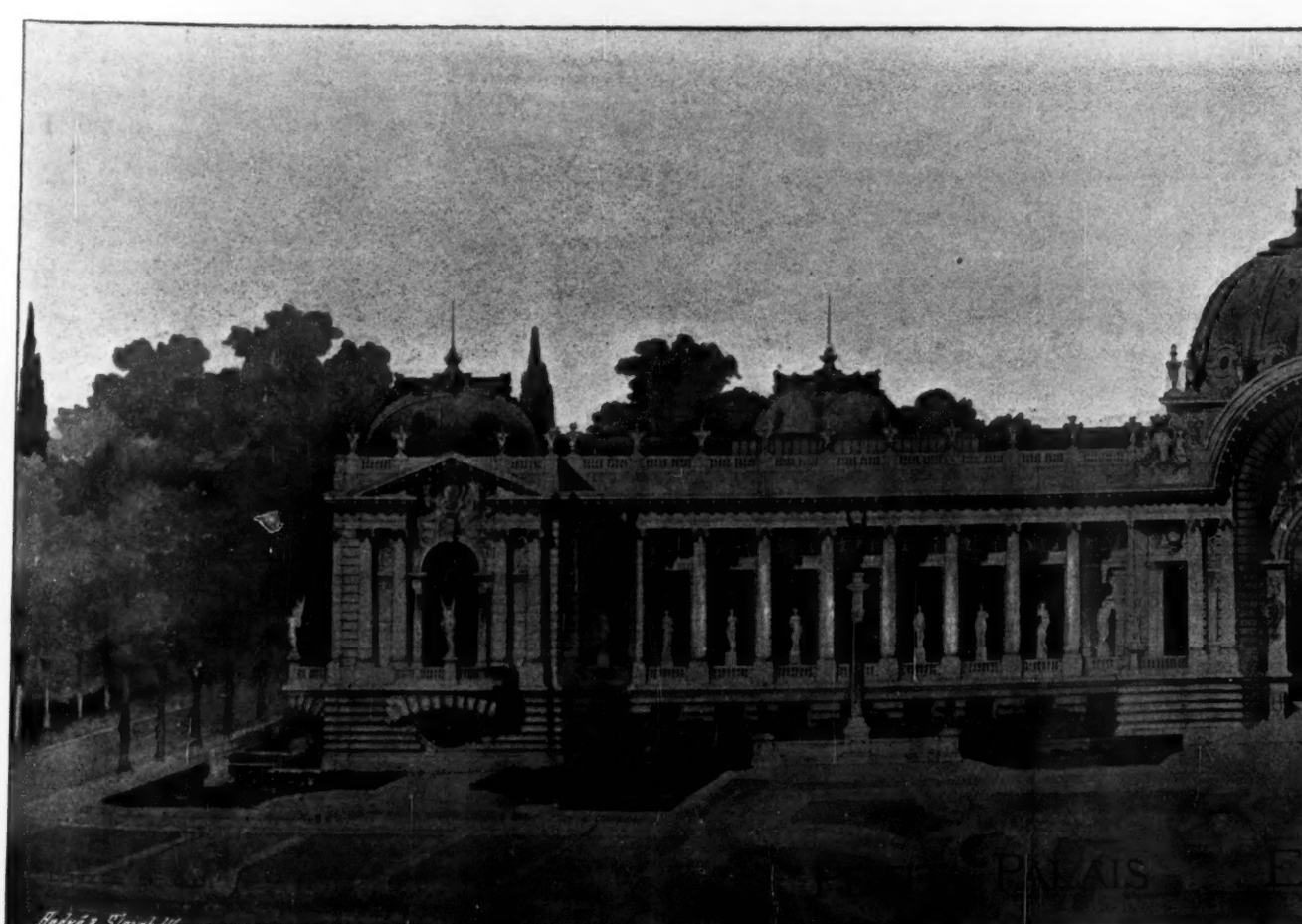


FIRST PREMIATED DESIGN FOR LARGE PALACE FOR



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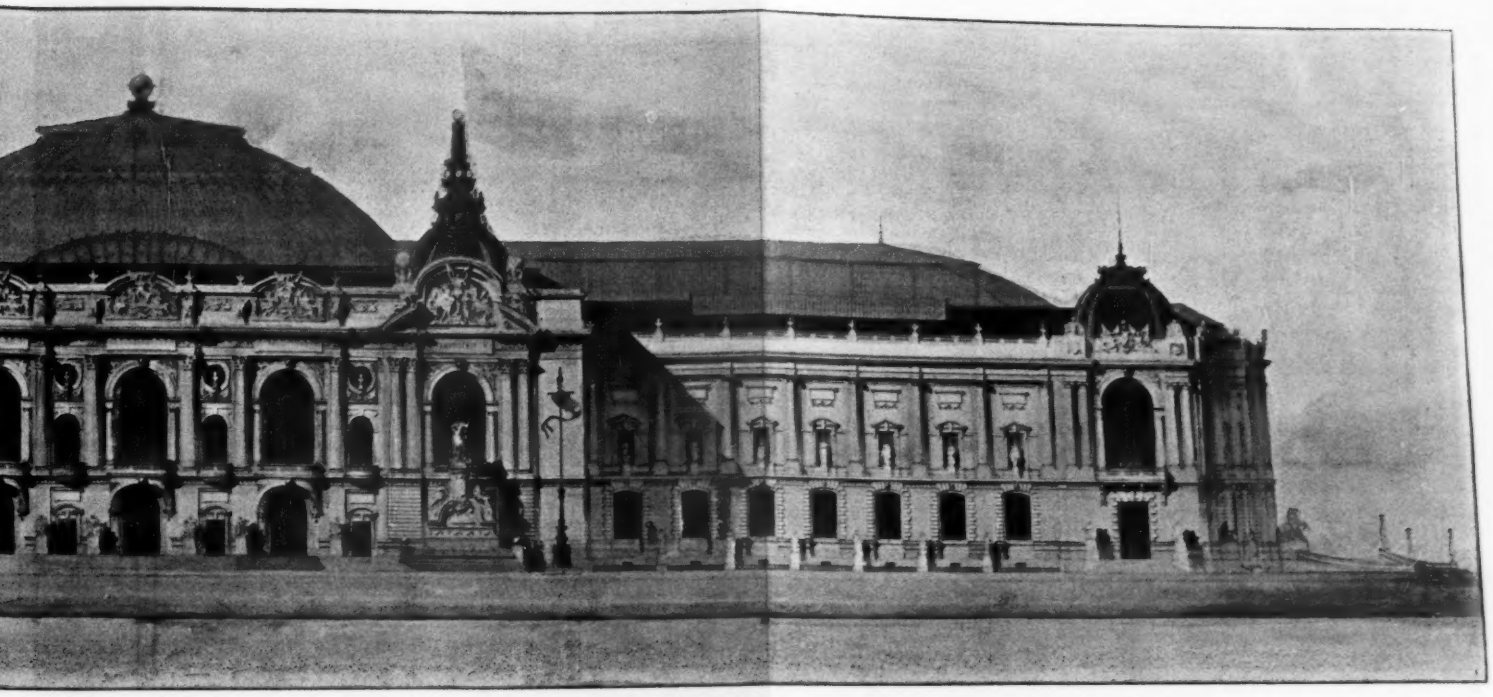
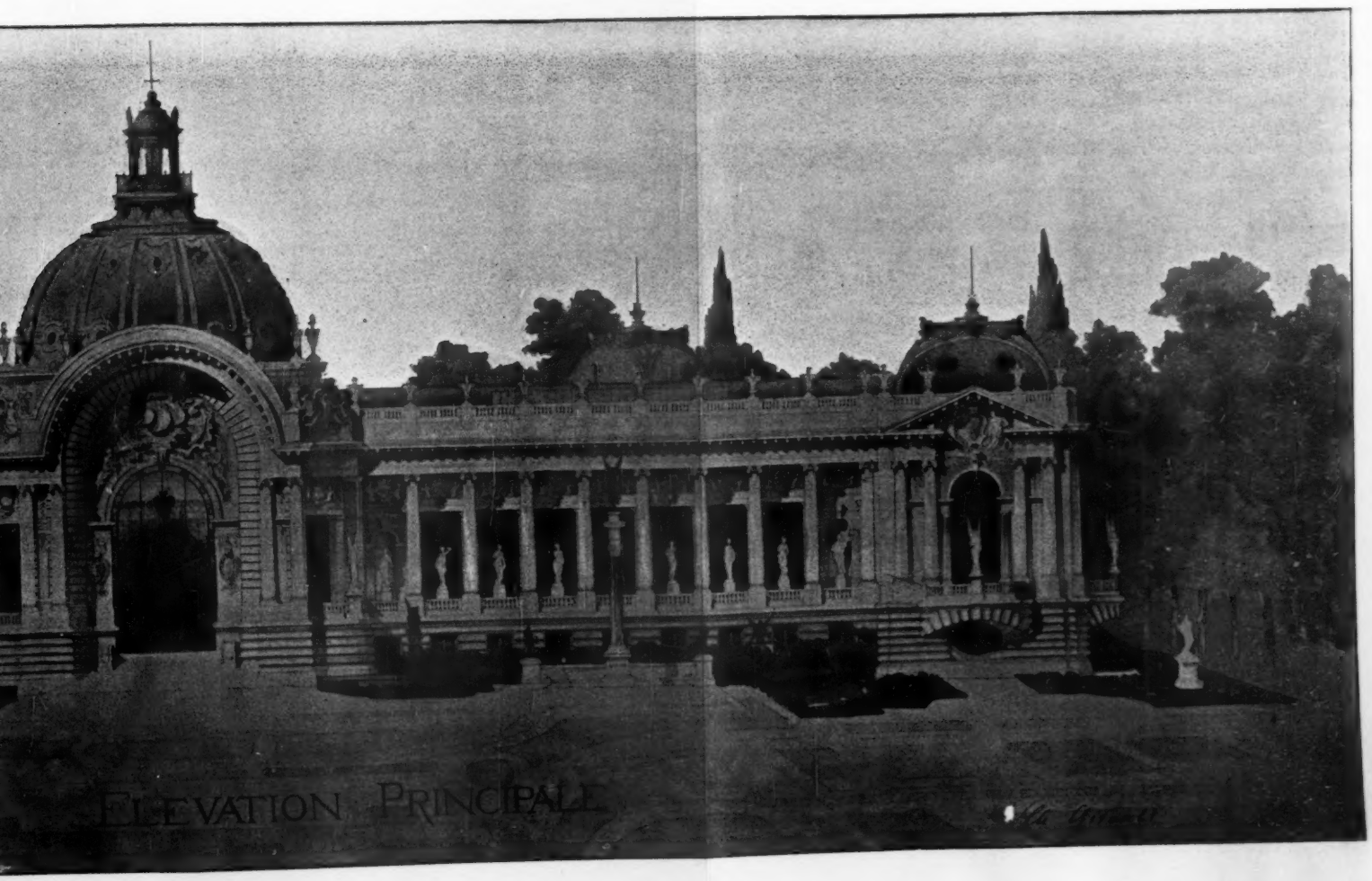


ALACE FOR THE PARIS EXHIBITION OF 1900.—M. LOUVET, ARCHITECT.



PALACE FOR THE PARIS EXHIBITION OF 1900.—M. GIRAULT, ARCHITECT.

COMPETITION DESIGN FOR TECHNICAL INSTITUTE AND

PHOTO-LITHO. SPRAGUE & CO. 4 & 5 EAST HARDING STREET FETTER LANE E.C.

TUTE AND PUBLIC LIBRARY FOR WEST HAM.—By Mr. J. M. Brydon, F.R.I.B.A

PHOTO-LITHO. SPRAGUE & Co. 4 & 5 EAST HARDING STREET, FETTER LANE, E.C.

PHOTO-LITHO. SPRAGUE & Co 4 & 5 EAST HARDING STREET FETTER LANE E.C.

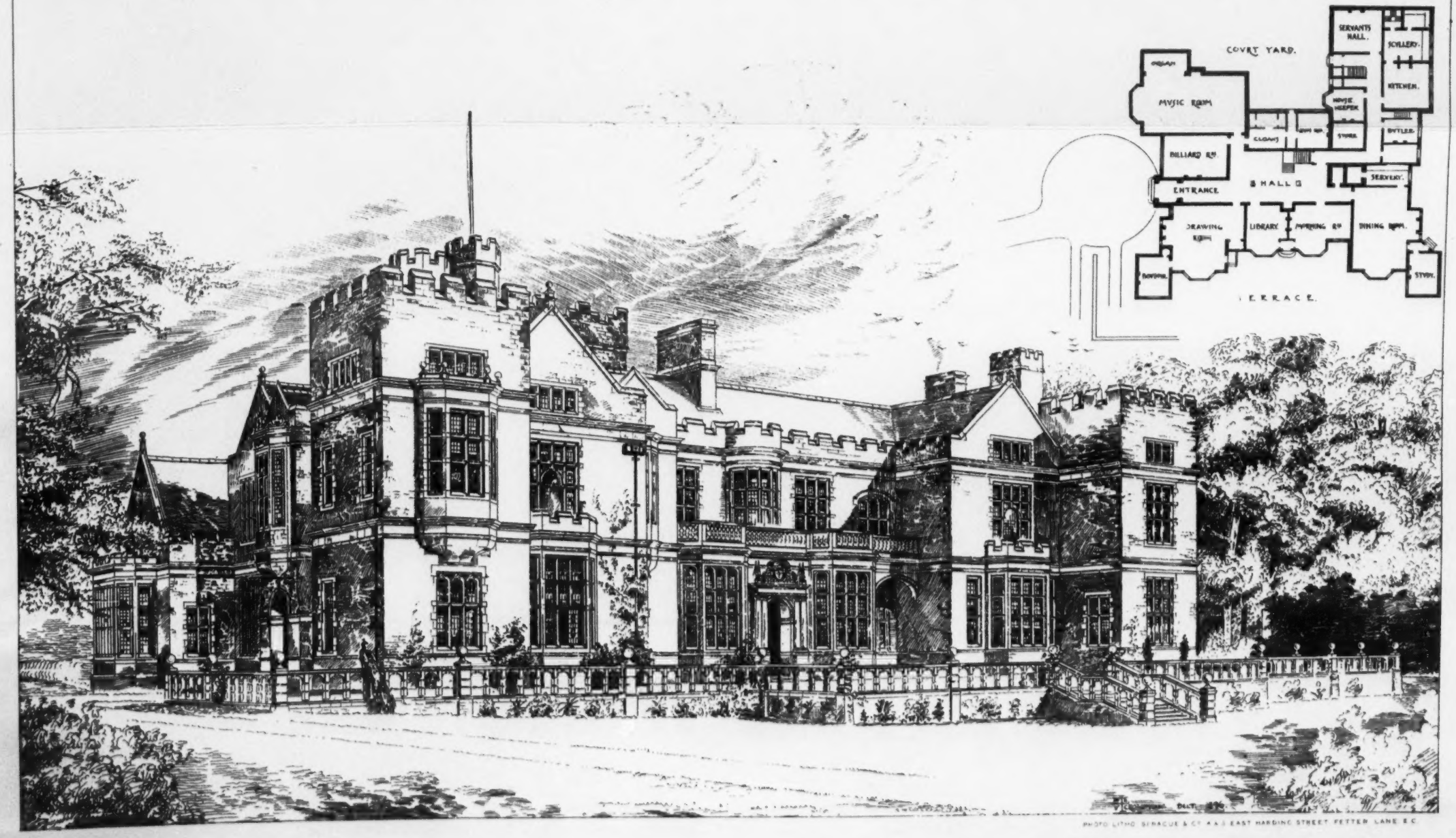
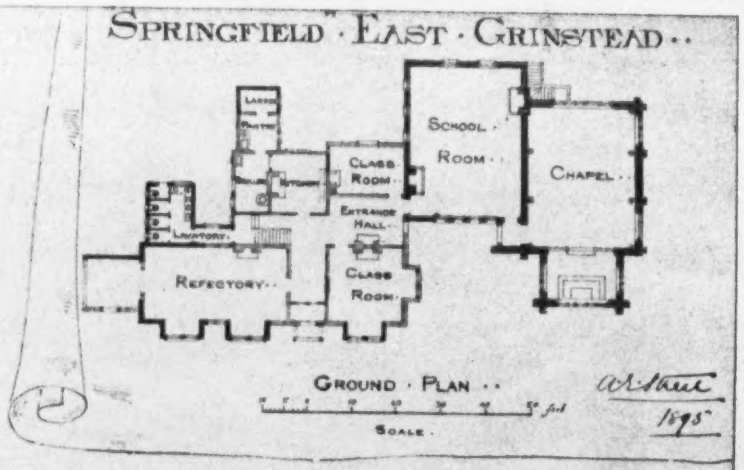
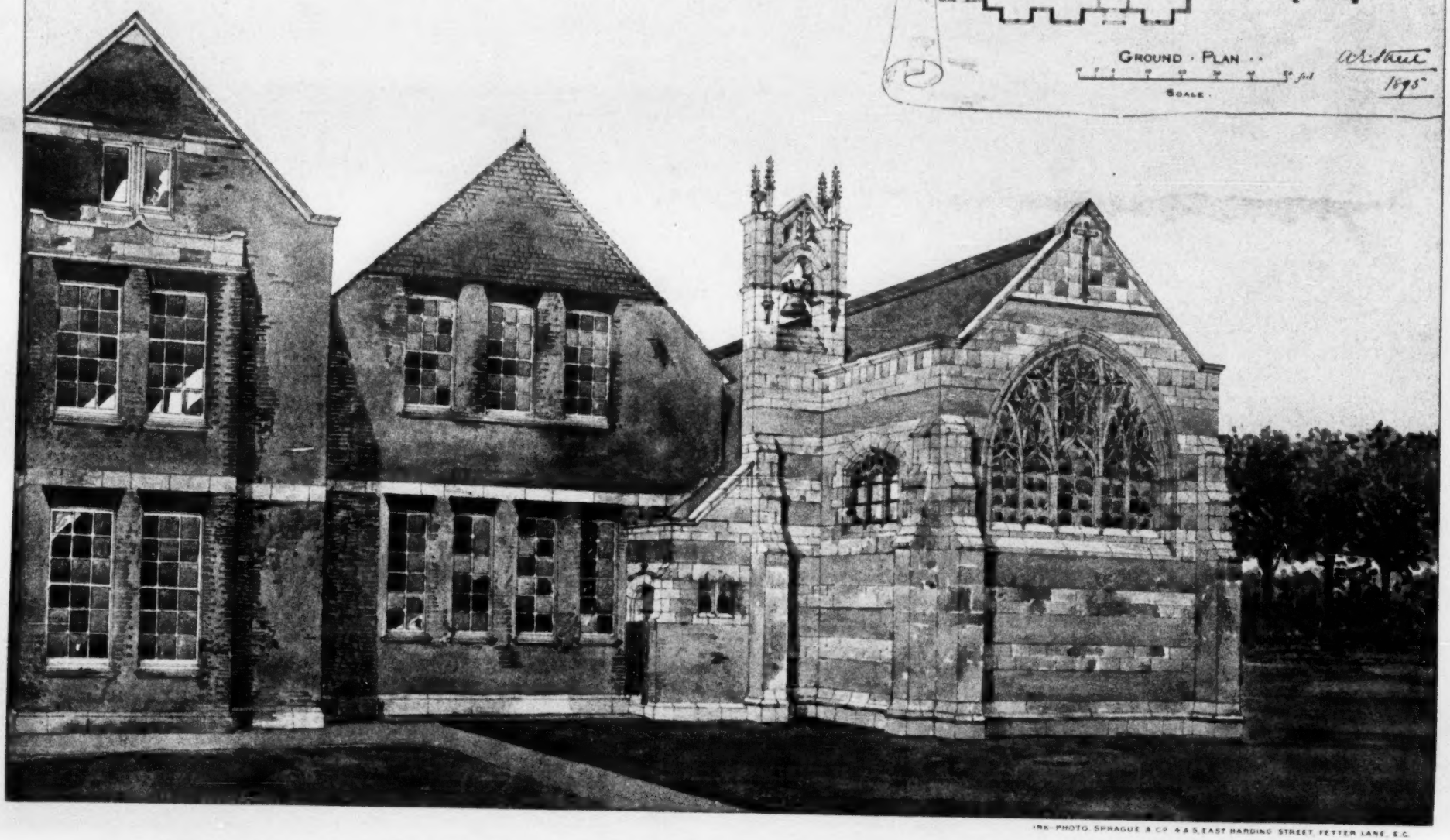


PHOTO LITHO SPRAGUE & Co 4 & 5 EAST HARDING STREET FETTER LANE E.C.

"THE BIGGINS," KIRKBY LONSDALE.—The Late W Verity & Mr W. E. V. Crompton, A.R.I.B.A., Architects.





INS-PHOTO. SPRAGUE & Co 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

NEW CHAPEL AND ADDITIONS TO SCHOOLS, "SPRINGFIELD," EAST GRINSTEAD. MR. A. E. STREET, F.R.I.B.A. ARCHITECT.

INK-PHOTO. SPRAGUE & CO. 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

INTERIOR OF NEW CHAPEL, "SPRINGFIELD," EAST GRINSTEAD.—MR. A. E. STREET, F.R.I.B.A., ARCHITECT.

NEW CHAPEL AND ADDITIONS TO SCHOOLS, "SPRINGFIELD," EAST GRINSTEAD.—MR. A. E. STREET, F.R.I.B.A., ARCHITECT.

and modifications as they may desire on Messrs. Marshall & Dick's design.

HIGHER GRADE SCHOOL, NOTTINGHAM.—An important competition has been held at Nottingham, limited to the architects of the town, for a Higher Grade and Organised Science School. The assessor has been Mr. E. R. Robson, of Westminster, who awarded the first, second, and third position respectively to Mr. R. C. Clarke, Messrs. R. C. & E. R. Sutton, and Messrs. Evans & Son. Nine sets of plans were submitted, and have been publicly exhibited at the Exchange Hall in Nottingham. The cost of the building will probably be about 18,000*l.*

CONGREGATIONAL SUNDAY SCHOOLS, ST. GEORGE'S-ROAD, WIMBLEDON.—As the result of a limited competition recently held, the Building Committee of these proposed schools, at their meeting on Monday last, adopted the design of Mr. R. Allsebrooke Hinds, architect and surveyor, of No. 36A, Hill-road, Wimbledon.

RECONSTRUCTION OF TOWNHOUSE, ABERDEEN.—Mr. William Young, the professional assessor appointed by the Council, has reported design No. 4 as the best of those submitted, and No. 5 as second best. These have been found to be by Mr. James Souttar, architect, Aberdeen, and Mr. A. Marshall Mackenzie, A.R.S.A., Aberdeen, respectively. The premiums are 50*l.* and 25*l.* The competition was restricted to local architects. The cost of carrying out the work according to design No. 4 is estimated at 10,679*l.* The front elevations will be left almost untouched, but there will be four stories, instead of three as at present.

ARCHÆOLOGICAL SOCIETIES.

CAMBRIAN ARCHÆOLOGICAL SOCIETY.—A meeting of the local committee of this Society, which is preparing for a visit to Aberystwyth, was held recently. Canon Trevor Owen said that the Association were coming to Aberystwyth to hold their jubilee meeting on Monday, September 7, which was coincident with the date when the Association was founded at Aberystwyth in 1846. One day would be devoted to Aberystwyth and the vicinity; another to Strata Florida and the neighbourhood; and the third to Aberayron and the coast. On the fourth day the Society intends going further afield; the members will visit Towyn and Llanegryn.

NOTTS AND LINCOLN ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY.—The annual meetings of the Notts and Lincoln Architectural and Archæological Society took place recently. The programme of this year's meetings included two days' excursions to the churches of the neighbourhood of Newark. The route was from Newark to Tuxford, and returning *viâ* Egmanton, Laxton, and Norwell. The first halt was made at South Muskham. The Rev. A. F. Sutton described the churches all through, and after the party had looked round they gathered in the churches and listened to his descriptions. The annual dinner of the Society was held at the "Clinton Arms," and afterwards a public meeting took place in the Council Chamber at the Town Hall, at which a paper was read by the Hon. General Secretary upon "Newark Parish Church."

MIDLAND INSTITUTE ARCHÆOLOGISTS' EXCURSION.—Under the leadership of Mr. Wright Wilson, F.R.C.S., an excursion was made to Maxstoke and Coleshill recently by the Archæological section of the Midland Institute. The party proceeded by way of Coventry-road, past Maxstoke Priory, to Maxstoke Castle, which had been kindly thrown open to the party by Mr. C. E. Malcolm. A short history and description of the castle, which is a well-preserved specimen of a crenellated manor house of the fourteenth century, built in 1346 by William de Clinton, Earl of Huntingdon, was read by Mr. Wilson, and an hour was then spent in viewing the interior and its interesting contents. The journey was resumed to Coleshill, where tea was provided at the Swan Hotel. The church was inspected, under the direction of the Rev. J. C. Pinney. This building dates from the fourteenth century, and contains several fine brasses and altar tombs, and has a parish register dating from 1538. Half an hour was spent in the secluded vicarage gardens, and Birmingham was reached shortly after ten o'clock.

LANCASHIRE AND CHESHIRE ANTIQUARIAN SOCIETY.—The members of the Lancashire and Cheshire Antiquarian Society, over fifty in number, visited Bramall Hall recently, under the leadership of their honorary secretary, Mr. George C. Yates, F.S.A. They were received by Mr. Charles Neville, who conducted his fellow-members round the exterior of the building, and pointed out all the more recent restorations of the ancient edifice, of which he was his own architect. The party then entered the house (which contains a valuable collection of old arms and armour, ancient vases, pictures, and other objects of antiquarian interest), and were conducted by their host through the principal rooms, a description of which was given *en route*. The earliest parts of the building seem to have been erected about the time of King Edward IV., whose family cognisances are to be seen in some of the chapel windows. The entrance hall is very striking, being fitted up with massive antique furniture of dark-coloured oak. The withdrawing-room is nearly 36 ft. long, wainscotted throughout, and almost square. The ceiling is remarkable for its pendant ornaments. The staircase leading to the drawing-room is of oak, and spiral in form. Among the bed chambers is conspicuous the "Paradise Chamber," the bed having been hung with elaborate tapestry, the work of Dame Dorothy Davenport, representing the history of the Fall of Man. The banqueting room is a large apartment, 42 ft. long and 21 ft. wide; the roof is of wood, the interspaces of the beams being enriched with quatrefoils; the walls are of plaster and oak in panels. At one end of the room stands a massive oak sideboard, elaborately carved. The chapel, which occupies the south-east angle of the building, is an ancient structure, with a flat roof supported by brackets; in it are the arms of Bramall, Davenport, and several others of the old Cheshire gentry. It is supposed to have been built about the time of King Richard III. Another noteworthy feature in old Bramall is the hatch door which communicates between the great dining hall and a passage and doorway where the poor used to assemble for relief. The door itself, which is a particularly heavy and massive one, was seldom opened, but the broken victuals from the high table of the squire were handed through a smaller door, let into a panel of the larger one, and so reached the expectant hands of the tenantry or wayfaring men without. Before leaving, Mr. J. Holme Nicholson, M.A., proposed, and Mr. J. D. Andrew seconded, a vote of thanks to Mr. and Mrs. Neville for their hospitality.—*Manchester City News.*

EAST RIDING ANTIQUARIAN SOCIETY.—This Society made an excursion to the neighbourhood of Pocklington recently. They visited the churches of Millington, Givendale, and Bishop Wilton, and especially the intrenchments and stone chair at Garrowby Hill.

BRISTOL AND GLOUCESTER ARCHÆOLOGICAL SOCIETY.—This Society held their annual summer three days' meeting at Monmouth recently. The members assembled in the Rolls Hall, when the Rev. W. Bazeley, the General Secretary, read the report of the Council. Amongst other things, the Council stated that very little has yet been done towards a photographic archæological survey of the county. On the Kemble estate of Mr. Michael Biddulph, M.P., an ex-President of the Society, is a wood marked in the ordnance map as the site of a deserted Saxon village. The felling of timber during the spring has exposed the ruins of many large dwellings, and Mr. Biddulph has very kindly suggested that excavations shall be made under the direction of the Society, with a view to throwing light on the unknown village and its forgotten inhabitants.—Sir H. M. Jackson then took the chair, and delivered an address. He thanked them for their election of himself to the presidency of the Monmouth meeting. In the afternoon the members, under the guidance of the Rev. W. Bagnall-Oakeley, inspected the ruins of Monmouth Castle, founded 1071, and the Castle House, built by the first Duke of Beaufort on the site of the Great Tower of the Castle, in 1682; the remains of the Benedictine Priory, founded c. 1073, with the fifteenth century room and window, known as Geoffrey of Monmouth's, but three centuries later than his date; and the sites of the ancient walls, gates, and other buildings of the town. The party next started for Raglan Castle, *via* Monnow Bridge and Gateway, and Over-Monnow, supposed by some to occupy the site of the Roman station of Blestium. A mile from Monmouth to the left of the high road, on the bank of the river Trothy, stands Troy House, an ancient seat of the Herberts, ancestors of the Duke of Beaufort, containing many relics of Raglan Castle. The house front is said to have been designed by Inigo Jones. On the second day a carriage excursion, under the direction of the Rev. Bagnall-Oakeley, left at 9 a.m. to visit the churches and castles on the banks of the Monnow. The route lay along the left bank of the river to Grosmont via Rockfield, with its characteristic church tower, Llangattock, and Newcastle, the site of a mediæval stronghold. At Grosmont, the Rev. Charles Wesley received the company, and showed them over the church, which consists of a disused nave with aisles and porch, central tower with transepts and choir with south choir aisle or chantry chapel. The party arrived at Skenfrith shortly before two o'clock and visited Skenfrith Castle, which consists of a keep constructed on a low mound with bastion towers, this building being of the date of King John, but an earlier fortress is said to have stood on the same site. The Vicar of Skenfrith, the Rev. C. L. Garde, explained the church, and exhibited an interesting fifteenth-century cope, formerly used by the clergy of the parish. After lunch at the Bell Inn, the party crossed to the other bank, and on the return journey inspected Pembridge Castle, Garway Parish Church, and Welsh Newton Church. The latter has a fine decorated stone rood screen and sanctuary chair. The vicar, the Rev. W. A. Willis, after explaining the church, pointed out the grave in the churchyard of the Ven. Father Kemble, who was martyred in Hereford in 1679. The party then returned to Monmouth. In the evening a conversazione was held in the Rolls Hall, when papers were read by Mrs. Bagnall-Oakeley, on "Blestium or Roman Monmouth, and its connection with the Great Roman Roads of the West"; Mr. H. E. Sheppard on "Norman Monmouth, its Castle and Priory"; and Mr. F. A. Hyett, "The First Printers of Bristol and Gloucestershire." On the third day the members left Monmouth for a carriage excursion through Dean Forest, Newland and Tintern Abbey. St. Briavils was reached about 2.15 p.m., and, by the permission of Mr. Furling, the members inspected the Castle, which in mediæval times was the residence of the chief officer of the Forest of Dean, and was frequently visited by King John, Henry III., and other English kings. After lunch the parish church of Newland was inspected, and the party was subsequently entertained to tea by the Rev. W. and Mrs. Bagnall-Oakeley. The next meeting will take place at Cirencester in the second week of September next.—*Hereford Times.*

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS.—Mr. C. J. Ferguson has removed his London Offices from 17, Cowley-street, Westminster, to "The Studio, 42, Clareville-grove, South Kensington" (near Gloucester-road Station).

MEMORIAL WINDOW, CLEVEDON CHURCH, SOMERSETSHIRE.—On the 15th ult., at Clevedon parish church, a stained-glass window, which had been set in the north wall as a memorial to the late vicar, the Rev. Charles Marson, was unveiled. The work of constructing the window was entrusted to the London firm of Messrs. Thomas Pole & Sons, and the subject selected was that of All Saints. The window is a three-light one, and contains representations of the figures of the great Saints.

MEMORIAL WINDOW, ST. JOHN'S CHURCH, LOWESTOFT.—A stained-glass window, erected in St. John's Church to the memory of the late vicar (the Rev. H. S. Hume), was dedicated recently. The glass, which has been placed in the window over the Communion-table, has been designed and worked throughout by Mr. H. J. Salisbury, of St. Albans. It is in the Perpendicular style. The canopy and surroundings of the subjects are treated in white relieved with yellow. Four panels represent incidents in the life of St. John. The figure of St. John occupies the lower portion of the middle light, and the upper is occupied by a figure of Our Lord. The background of the latter is neutral. In the tracery above angels are introduced, together with the sacred monograms and emblems.

RENOVATION OF HOLY TRINITY CHURCH, BORDESLEY, BIRMINGHAM.—Holy Trinity Church, Bordesley, after being closed for several weeks for the renovation and redecoration of the interior of the fabric, was recently opened. Chief amongst the many transformations which the reparation has affected, says the *Birmingham Gazette*, is that of the chancel. The striking picture of "Christ at the Pool of Bethesda," by Foggi, which formerly was placed on the reredos intercepting the decoration, has been raised, and the redecoration includes the replastering of this part of the ornamentation of the chancel. The gallery front and organ have also been treated as special features. The ceiling, which was discovered by the architect, Mr. Frank B. Osborn, to have hidden beauties, has now been decorated in light tones of vellum colour, relieved with decorative ornamentation, in buff, blue, and deep vellum colours, and the whole is enriched with gold. The painted rods supporting the hand-rail to the pulpit stairs, which were discovered to be brass, have now been cleaned and lacquered, and the painted pedestals of the standard lights around the church have been similarly restored. The decorative work has been carried out by Messrs. A. Seers & Sons, the gas-fittings by Messrs. Breedon & Son, and the plaster work to reredos by Mr. G. Price.

Correspondence.

To the Editor of The Builder.

THE CONSTRUCTION OF HOSPITALS AND INFIRMARIES.

Sir,—The silence in regard to the able letter of your correspondent "F.R.C.S." on this important subject, which appeared in your issue of June 27, appears to me rather unaccountable. It is perhaps to be explained either by the fact that his arguments from an architect's point of view are unanswerable, and therefore cannot be criticised; or possibly from a feeling that the question is, as "F.R.C.S." says, primarily one for the medical officers of their institutions while the members of our profession have simply to carry out their behests. I may, however, be permitted to make a few remarks on the subject. There can be no doubt that architects will receive with great joy their emancipation from the incubus and terrible tyranny of the pavilion system of construction.

Then another point is that of the comfort of the patients. Under the present system every man jack of them has perforce to lie in bed facing a window. Every one knows how distressingly painful this is to many people. By the system now proposed this is largely ameliorated, and at least one-half of the patients may have a wall in front of them. Then there can be no question that hitherto the lighting of wards has been overdone. Patients want reposed, and not glaring, sunlight. The system proposed modifies this very greatly, seeing that there will be only half the usual window space, while the height of the central wall is low enough to permit the light from both outer walls to pass across it to the other side of the ward—an advantage which cannot be obtained in the "corridor" system.

Next, as regards the warming and ventilation, while many new methods have recently been introduced, I think "F.R.C.S." is happy in selecting the *plenum* system for illustration. It appears to be making its way everywhere, not only in Scotland but in England also, and the powerful testimony of Lord Kelvin in regard to it must give it a great impetus. As regards my own experience of it, I have found that sometimes the stoker may burn too much coke and cause too much dryness of the air of the ward. This, of course, is a matter which can be rectified at once by having an intelligent man in charge. The consumption of fuel might almost be regulated automatically—namely, by allowing so many hundredweights for every degree of fall in the temperature.

I cannot conclude without expressing my feelings of thankfulness to "F.R.C.S." for having brought up this subject and having treated it in so masterly a way.

An Architect.

EXETER CHURCH COMPETITION.

Sir,—So far this is no exception to the rule that competitions are rarely satisfactory. Being for a church this is doubly regrettable.

Firstly, no announcement of the mere number of plans received appeared in the papers in which the original advertisement was issued till *a month and a half* after the date of delivery—June 1.

Secondly, at what I trust is the eleventh hour, the assessor's name has not been made public. (It should be difficult to persuade a reputable architect to act as assessor after a committee has sifted the drawings for him from 440 to less than 100. An eminent assessor, well known to me, invariably refuses to act unless the *whole* of the drawings are submitted to him.)

Thirdly, there is a rumour abroad that the Committee have almost settled on a local man before the award is made. I trust this is merely a rumour.

Fourthly, I think 100*l.* would be a fair sum as a valuation for each set of drawings. The Committee, therefore, has obtained over 40,000*l.* worth of brains from the profession, for which they are going to pay 175*l.*, and the percentage on 6,000*l.* "*if the circumstances are entirely satisfactory!*"

The fairness of the conditions, the difficulties of the site, and the fact of the competition being for an English church will account for the large number of plans.

Let the Committee, therefore, fully realise their responsibility.

Thanking you for your excellent notes on the subject, I am, sir, yours, &c.,

Another Competitor.

Quarrymasters' Association.—Following on the preliminary meeting at Aberdeen of granite and whinstone quarrymasters, previously referred to, a meeting has been held in the Country Hotel, Carlisle, at which it was agreed to form an association of the quarrymasters of the United Kingdom for the protection of their interests. A committee, consisting of a representative from each district, is to formulate regulations to be submitted to a future general meeting.

The Student's Column.

RURAL DRAINAGE.—V.

PRELIMINARY INQUIRY.

SUCCESS in designing a drainage scheme principally depends upon a thorough previous acquaintanceship with the local circumstances which will govern the details of that particular system. The present day might without injustice be called the "ready-made era," and the practice extends to drainage schemes. There is probably hardly a locality in England for which our modern sanitary engineer could not find upon his shelves a set of plans which he could modify so as to suit the requirements of the case. True suitability implies the absence of undue local strains, which, unless there is great adaptability in the material, will soon ruin the structure. Where strains are brought into play and where the material does not possess exceptional adaptability, the "ready made" is not the economical form of construction.

As already stated the financial, and, therefore, the economical elements of a rural drainage scheme are of paramount importance, and it is absolutely necessary that the system to be adopted in any locality should be designed so as to fit the particular circumstances of the case in every detail. By careful attention to this point, not only may expenditure be saved in the first instance, but subsequent extensions or modifications may be made with greater economy and efficiency.

The principal subjects for preliminary inquiry are:—

1. The area of the district to be served, present and prospective.
2. Population, present and prospective.
3. Physical outline of the district with a view to the lines of drainage, and the situation of the outfall or outfalls.
4. Available plans.
5. Rainfall.
6. The water supply of the district, present and prospective.
7. The sanitary appliances in use in the district.

The Area of the District.

The area of the district to be sewered is a very important consideration, and is determined arbitrarily and physically. When it is purposed to apply to the Local Government Board for their sanction to the constitution of a "special drainage district" (Public Health Act, 1875, Sec. 277), the proposed boundary line should be drawn so as to include the minimum of property that will not derive benefit from the system. If, on the other hand, the area over which the rates for the construction and support of the system must be levied, is defined by parish boundaries, then as much property as possible requiring drainage should be included, compatible with economy of construction. Physically the drainage is frequently determined in one or more directions by the natural drainage area, extension beyond such limits entailing mechanical power for raising the sewage, sewers of excessive length following contour lines or deep excavations, devices usually economically impossible in a rural district. The difficulty may sometimes be overcome in practice by additional outfalls.

Population.

As the cost of the construction of sewerage and sewage disposal works is usually spread over a term of years, "it is only just" to quote Mr. Baldwin Latham, "to those of the ratepayers who may hereafter occupy the district, that the works towards which they will have to contribute should be of equal service to them as to those who called them into existence." It is usually the practice to assume that the population of a district will increase in the immediate future at the same rate that it has increased in the immediate past. Unfortunately, the population in rural districts has decreased rather than increased during recent years, due to the massing and crowding of towns. It was believed at one time that the cause was to be sought in the absence of administrative local government in the villages; and it was hoped that the Local Government Act, 1894, by the creation of parish councils, would stem the rush for the towns. As yet no improvement in this respect can be seen, but, on the contrary, the new source of taxation introduced by the Act appears to make rural inhabitants less satisfied than ever. Probably two amongst the causes are the heavy rating of agricultural land and the inherent—sometimes overwhelming—expense of ill-considered sanitation.

Physical Outlines of the District.

This has been already alluded to in discussing the question of area. The physical outline is a subject of maximum importance, as it determines the lines of sewerage, the amount of excavation, and to a large extent, the situation of the outfall. Closely connected with the physical outline is the geology of the district, which determines the cost of excavation, and introduces, amongst other things, the consideration of sub-soil water.

Plans.

In order to obtain a general idea of the district to be drained and for marking thereon the proposed line of sewers, positions of manholes, &c., a plan is necessary. Fortunately at the present day accurate and inexpensive plans of practically the whole of the country can be obtained as issued by the Ordnance Department. These plans are issued on several scales but the one applicable to the present purpose is the $\frac{1}{2500}$ th, or 25·344 inches to the mile. Each sheet represents one and-a-half mile by one mile. Price uncoloured 2s. 6d. each (with areas printed on 3s.), coloured 2s. 6d. to 23s.

Approximately the square inch in these plans equals 1 acre.

The area of each enclosure together with a reference number is printed within it on the plan. The brace S on the plans indicates that the spaces so braced are included under the same reference number. Areas are computed to the centre of the fence or other boundary of the enclosure except in the following cases:—

(1.) When the fence or other boundary is also the boundary of a parish or other civil division which does not follow the centre of the fence, the area is calculated to the parish or other boundary and not to the centre.

(2.) The fences, &c., bounding either side of a railway are included wholly within its area.

Altitudes are given in feet above the approximate mean water at Liverpool. Those indicated thus—⩚ B. M. 54·7—refer to marks made on buildings, walls, &c., and are called bench-marks. Trinity high-water mark, which is the level of the lower edge of a stone fixed in the face of the river wall on the east side of the Hermitage entrance to the London Docks, is 12·48 above Ordnance datum.

These plans usually need a certain amount of revision, such as marking on new buildings or road diversions. Upon this plan should be recorded all existing sewers, drains, and surface-water channels, which must be carefully considered in designing the new system. In most localities, especially in the neighbourhood of groups of houses, or following distinct lines, bench marks and spot levels are shown upon the plans, and attached are their respective heights above the Ordnance datum. These recorded levels are useful for the purpose of starting, checking, and tying on the levellings which must be made along the lines of streets or roads, or wherever it is proposed to lay sewers. These levellings should be plotted to the same horizontal scale as the general plan, and to a vertical scale of 20 ft. to the inch. The sections should show the levels of the surface of the roads, door-steps, existing sewers, and of any obstacles such as streams, ditches, water pipes, &c., which might affect the course of the sewers. The amount of detail necessary in the first instance depends upon whether the engineer is resident at or near to the site of the proposed works. Great accuracy must be observed in obtaining and recording the information indicated above, as a slight error may render a scheme founded thereon useless, or even impossible.

Water Supply.

The consumption of water in a district is usually a criterion of the amount of sewage for which preparation must be made. If, however, the water supply is scanty at the time of the investigation, and there is even the remotest probability of the supply being supplemented in the near future, the calculations for the proposed works should be based upon the higher figure. At any rate, an ample margin should be allowed. This point is of considerable importance in deciding upon the capacity of precipitation tanks.

Sanitary Appliances.

As already stated, the volume of sewage to be dealt with does not usually materially depend upon the sanitary appliances in use in the district, but that this point forms a considerable factor in the subsequent treatment of the sewage.

OBITUARY.

M. ADOLPHE GUILLON.—We regret to have to announce the death of this artist, a landscape painter of talent who also took a great interest in architecture. M. Guillon lived during a part of each year at Vézelay, spending the other portion of the year in Paris, and he took the greatest interest in the ancient monuments at Vézelay, as well as in architectural antiquities generally, and was, we believe, one of the few French artists who were strongly opposed to the lamentable and wholesale system of restoration of ancient buildings which has been too often practised in France. M. Guillon had published from time to time various illustrated pamphlets on architectural antiquities—ancient tiles and other objects which he had sketched or collected. He had devoted a good deal of his time to picturesque illustrations of ancient work at Vézelay.

GENERAL BUILDING NEWS.

WORDSWORTH'S HOUSE, GRASMERE.—The old rectory at Grasmere, for some time the residence of the poet Wordsworth, has been rebuilt on modern lines, but the main front facing the church has been retained as far as possible, and the old character preserved. The work has been carried out from the designs, and under the superintendence of, Mr. Robert Walker, architect, Windermere.

DIOCESAN HOME, GOSFORTH, NORTHUMBERLAND.—The opening of the new Diocesan House of Mercy, Salter's-lane, Gosforth, took place on the 23rd ult. The building is situated opposite the gates of the Coxlodge Asylum. On the right-hand side of the main entrance, on the ground floor, are a committee-room and a house dining-room, whilst opposite these, on the left of the entrance, are the girls' dining-room and the kitchen. In the rear is a recreation hall, and on the west side of the building, with corridor connexion, are a laundry, wash-house, ironing room, &c. The latter is 46 ft. long by 22 ft. wide, and the wash-house measures 34 ft. by 22 ft. On the first floor the bulk of the space is occupied by the girls' dormitories, overlooking which are the bedrooms of the lady superior and others. Above are sitting-rooms. A chapel has also been provided, and within the grounds spaces have been set apart for recreation, drying purposes, and gardening. The late Mr. Arthur Gibson was engaged as architect, and the work was completed by Mr. W. Stobbs. The contractor was Mr. John Ferguson, whilst Mr. Bradford, of Manchester, has done the engineering work.

SUNDAY SCHOOLS, DURHAM.—On the 23rd ult. Mr. M. Fowler, M.P., laid the foundation-stone of the new Sunday schools, which are to be erected in connexion with the Durham Primitive Methodist Chapel. The new schools are to cover the site of the old buildings which have been doing duty for a Sunday school, and they are to be sufficiently large to accommodate 200 children. Messrs. Plummer & Burrell, of Newcastle and Durham, are the architects, and Mr. J. G. Gradon, of Durham, the contractor.

RESTORATION OF ST. MARY'S CHURCH, WARWICK.—The parish church of St. Mary, at Warwick, has during the last three months been undergoing restoration. The nave of the edifice was burned down in 1694, and was rebuilt in 1704 by Sir W. Wilson, builder and architect, of Leicester. Wilson appears to have been a man of ability, says the *Birmingham Post*, but it has always been considered that a greater than Sir W. Wilson, namely Sir Christopher Wren, had a hand in the rebuilding of St. Mary's. At the time of the work Sir Christopher was residing at Wroxall, within a few miles of Warwick, and being interested in such an undertaking doubtless lent Wilson his friendly aid. Corroboration is afforded by the existence of sketches of the church by Sir Christopher Wren at All Souls College, Oxford. One of these shows the old church, with its perpendicular window, resembling those of the Beauchamp Chapel, and a short Early English tower at the west end, and a south porch, with the room over it, in which was a library, where the antiquarian Rous, it is said, resided. Other sketches at All Souls are suggestive of the restoration of the church on the lines Sir W. Wilson carried out. In these sketches there are no indications that galleries were intended to be erected; in fact, the side galleries were not introduced until 1767, and those across the transepts were not erected till 1797. These galleries have now been removed. Another improvement is the covering of the floor with a bed of concrete. A wood block flooring is laid upon the concrete where the seats are placed, while large flags of blue and white stone are used for the passages. New wrought-iron gas pendants have been supplied by Messrs. Thomason & Co., of Birmingham. The work of reinstating decayed stone on the south side of the church has been done to several bays. The Henry the Eighth's trustees, within the last few years, have steadily done a great deal in the restoration of the exterior of the edifice, having been advised, as in the recent alterations, by the architect to the church, Mr. J. A. Chatwin, of Birmingham. The builders engaged have been Messrs. G. F. Smith & Son, of Milverton.

RESTORATION OF BRUERA CHURCH, NEAR CHESTER.—The Church of St. Mary the Virgin, Bruera, near Chester, has just been restored. The church consists of a nave and chancel, the nave, it is stated, probably dating back to 1100 A.D. The chancel was probably erected in the year 1300, and is in a different style, and at a more recent date a chapel was added on the south side, communicating with the nave by an archway. The old walls, which have been strengthened, repaired, and cleared of their cover of limewash, now support an oak roof in place of the flat expanse of plastered ceiling. The old high-backed pews are replaced by oak benches standing upon a cement and wood-block flooring. The old panelling has been used to line the walls. A gallery in the west end of the church has been removed, and a new vestry has been added to the south side of the chancel. The old altar rail is retained, but is fixed where the original rood-screen may have stood. The two principal windows of the church have been filled with stained glass from the works of Mr. Edward Frampton, of London. The subjects portrayed are in the east windows the Crucifixion, and in the west the Annunciation. The whole of this work has been carried out by Messrs. Parker Brothers, of Eccleston and Chester, under the superintendence, and to the plans, of Mr. W. M. Boden, architect, of Chester.

CONGREGATIONAL CHAPEL AT PENARTH.—On the 22nd ult. Dr. Garrod Thomas, M.D., J.P., of Newport, laid the foundation-stone of a new Congregational Church at Penarth. A site has been secured in Stanwell-road, and it is intended to construct an edifice which will be chiefly composed of Newbridge stone with Bath stone dressings, and when completed will afford accommodation for 550 persons. The total cost is estimated at 5,800*l*., and the contract has been let to Messrs. D. G. Price & Son, Penarth. Messrs. Habershon & Fawckner are the architects.

SUNDAY-SCHOOLS, BILTON PARISH CHURCH, YORKSHIRE.—The foundation-stone of the new Sunday-school in connexion with St. John's Church, Bilton, has just been laid. The buildings of the new school consist of a schoolroom 60 ft. by 27 ft., divided across the centre with a movable partition, providing accommodation for 136 boys and 136 girls. Facing towards the far end of the schoolroom is a class-room, 19 ft. by 14 ft., to accommodate thirty-three, arranged with proscenium, and fitted with revolving shutter, about 18 ft. opening, for the purposes of a stage, &c. Adjoining the stage class-room is another class-room, divided from it by a movable partition. Over the stage, and of similar size, is another class-room. Separate cloakrooms and exits are provided for boys and girls. In the basement are provided store cellar, with trap-doors from the schoolroom floor; also coke and coal places, boiler-house, &c., and a special copper, communicating with a lift to the schoolroom. The class-room adjoining the stage will be fitted with a sink and cooking range, and has a separate exit by a screened lobby to either the schoolroom or the outside. The building, though primarily designed as a Sunday-school, has been arranged by the architect to suit a variety of purposes connected with the parish. The total accommodation provided by school-room and class-rooms is 360. The contractors are as follows:—Messrs. S. Nettleton, Far Bilton, mason, &c.; J. Tomlinson & Son, Leeds, joiners, &c.; Hewson & Atkinson, Starbeck, plumbers, &c.; T. Moore, Leeds, plasterer; J. & W. Baynes, Harrogate, slaters; Gill & Noddings, Harrogate, painters; and Newton, Chambers, & Co., Sheffield, hot-water engineers. The whole of the work is designed and is being carried out under the superintendence of Mr. Arthur A. Gibson, architect, of Harrogate and Knaresborough.

HIGH SCHOOL BUILDINGS, BEDFORD.—The addition to the premises of the High School, Bromham-road, Bedford, is practically completed. The work was commenced on election day last year, the contractor being the late Mr. Thos. Spencer, and it has been carried to a conclusion by his executors, from designs by Mr. H. Young, architect to the Harpur Trust. The large schoolroom is 95 ft. by 27 ft., running north-west and south-east. It opens into two class-rooms on the north. All the floors are of pitch pine blocks, and all the walls have pitch pine dado below, with the plaster above distempered and decorated in colours. Beeston radiators and coils of hot-water pipes form the heating apparatus, in addition to two Manchester stoves in the large room and one in each of the class-rooms. In the large room the ceiling contains sixteen square panels, and to the centre of each is attached an electric pendant. Sherringham's ventilators are employed; tubes pass from gratings in the outside wall, under the floor, to shafts in the opposite wall of the interior. Hot air from the stoves enters through apertures in the wall above the fireplace, and is gradually diffused. The entrance to the new building from the Bromham-road side faces Holy Trinity Church, and opens into a hall which has a dado of white enamelled bricks, with a brown moulded border. A door on the left opens into a large cloakroom and lavatory, finished with the same block floor and pitch-pine dado as elsewhere. The door on the right leads into the large school-room, and another at the end of the corridor communicates with one of the class-rooms. An approach from Adelaide-square leads to the eastern entrance, where the first room on the right is the mistresses' room; and a range of buildings along the side includes a boiler-house for the heating apparatus and three music-rooms. The east entrance-hall conducts to a corridor with a lavatory at the end and the music-rooms on the right, while a door on the left opens into the gravelled yard at the back of the premises. From the same corridor rises a stone staircase in two flights. The greater part of the first floor is an art room, 52 ft. by 50 ft.

HER MAJESTY'S THEATRE IN THE HAYMARKET.—The foundation-stone of a new theatre for Mr. Beerbohm Tree, to be called "Her Majesty's Theatre," was laid on the 16th ult. The building is to occupy a portion of the ground on which the old Opera-house of that name formerly stood, and will, together with the hotel and café which is to be erected on the adjoining site, serve to cover the large open space that has for so long been an eyesore to this particular locality. Mr. C. J. Phipps, F.S.A., is the architect of the entire block. The new theatre will have a frontage of 86 ft. in the Haymarket, increasing to 94 ft. at the Opera Arcade end, the entire depth of the building from east to west being 150 ft. The structure will thus be practically isolated on three sides, viz., the Haymarket, Charles-street, and the Opera Arcade, and the architect has arranged that a wall of exceptional thickness shall separate the theatre from the hotel. The material used in the building will be Portland stone, and the façade both of the theatre and the hotel will be in the French Renaissance style. So far as the interior arrangements of the theatre are concerned several new features will be introduced, perhaps the most important of these being the substitution of a flat for a sloping stage. In the auditorium will be a pit on the floor of the house. It will be on a level with the street, and will have entrances in Charles-street and the Haymarket. There will be twelve rows of stalls, and the entrance to this part of the house will be from the vestibule in the Haymarket. In the dress circle, on the first tier, there will be eight rows of seats, and the corridor surrounding it will be level with the foyer, which will open on to the loggia in the façade. The upper circle will have ten rows of seats, and the gallery five rows, these two parts of the house, though otherwise distinct, being on one tier. The building, which will cost 55,000*l*., will afford accommodation for upwards of 1,600 persons. The latest improvements in electric lighting, heating, and ventilation will be adopted, and special arrangements have been made to protect the building from fire. Mr. Phipps, following the plan which he recently adopted at Glasgow, has arranged for the complete separation of the auditorium from the stage, there being a space of about 10 ft. between the walls of stage and the proscenium. In addition to this, the stage opening will be closed by a fire-resisting curtain, which will be taken up by hydraulic machinery. The contractor, Mr. Lovatt, of Wolverhampton, has undertaken to get the work finished by January 31 next.

PUBLIC BATHS, THORNTON HEATH, CROYDON.—In the Grand Jury Room at the new Municipal Buildings, Croydon, Col. W. Langton Coke, C.E., held an inquiry recently with reference to the application of the Borough of Croydon to the Local Government Board to borrow an additional 850*l*. for the erection of public baths at Thornton Heath. There were present Mr. Ernest Mawdesley (the Town Clerk), Mr. Walker (Borough Engineer and Surveyor), and others.

INFECTIOUS DISEASES' HOSPITAL, NEWPORT.—The new infectious diseases hospital erected by the Newport Corporation at Allt-yr-yn, Newport, was formally opened on the 17th ult. The buildings consist of an Administrative block, a pair of fever pavilions, Isolation block, laundry, porter's lodge, and a mortuary. All of the blocks, with the exception of the laundry, are built of brick, with Bath stone dressings. Each of the fever pavilions contains two wards, 36 ft. long, 26 ft. wide, and 13 ft. high. Each ward is laid out with six beds. The ward linen is kept in ventilated compartments. The nurses have a room in the centre of each ward, with fixed windows on either side commanding all the beds. The rooms are provided with cupboards, shelving, refrigerators, and ranges designed to meet all requirements. In the Isolation block the wards are somewhat similar in arrangement, but adapted to the Local Government Board requirements for special use. All of the floors are of narrow pine boards. The drainage is connected with the Barrack Hill sewer, and the whole of the system in the premises is laid with Hassell's patent double-jointed pipes. The total cost will be just under 14,000*l*. Messrs. A. S. Morgan & Co., Newport, were the contractors, and the building was designed by the Borough Engineer, Mr. R. H. Haynes.

SCHOOL, ISLEWORTH, MIDDLESEX.—A new Upper School is to be built at Isleworth, in St. John's-road. The building, which has been designed by Mr. J. Osborn Smith, of Westminster, will be of red brick, with stonework, and a special feature will be the octagonal tower rising 48 ft., and surmounted by a turret containing a bell. The width of the frontage to St. John's-road is 78 ft., and the depth of this block is 66 ft. The principal entrance lays back 40 ft. from the main frontage, and to the left of it is a block 28 ft. by 47 ft. Entering by the main entrance, and crossing the vestibule, the central corridor is reached. To the left is a cloak-room and a room to be used as a

workshop. The heating chamber and lavatories open into the corridor, which, running to the right, terminates at the great central hall. This measures 34 ft. by 28 ft., and from the floor to the highest point of the roof is 28 ft. It is to be provided with a deal floor, and the roof will be of pine. At one end is a gallery, and a gallery of lesser proportions is carried round the hall on iron columns. Attached to the hall is a library and a headmaster's room, and opening out of it are four class-rooms, each to have boarded floors and ceilings. Each is to be provided with a gallery. The laboratory will have a floor of asphalt. The builder is Mr. W. Wisdom.

Aythorp Roding Church, Essex.—On the 22nd ult., the Bishop of St. Albans reopened Aythorp Roding Church, which has been closed for the last four months. During that time the decayed portions of the fabric have been renewed, and a new roof has been put to the nave. The chancel roof, which was concealed by plaster, and found to be in a very bad state of repair, partly owing to a fire which took place a good many years ago, has been replaced by a new oak one corresponding with the old, the old timbers being re-used as far as possible. The church has been re-seated, but the old bench ends and seats have been retained, and the design of the new ones follows that of the old. The sacrarium has been enlarged, and a new altar and altar-rails provided. An open timber porch has been added on the south side of the church, and a lych-gate has been built at the entrance from the road. The work has been carried out by Mr. S. Parmenter, of Braintree, from the designs and under the superintendence of Mr. Arthur Blomfield Jackson, architect, London.

School, Truro.—On the 24th ult. the foundation-stone of a new High School for Girls at Truro was laid by Mrs. Gott. The site of the school is a field in the Falmouth-road, overlooking the city. The building has been designed by Mr. E. R. Robson, F.S.A., of Westminster, assisted by Mr. Sylvanus Trevail, of Truro. The school, which is to be non-residential, will accommodate about 130 girls. It will comprise several class-rooms, three music-rooms, a central hall 48 ft. by 26 ft., with balcony and platform, dining-hall, and apartments for the principal teachers and caretaker. The arrangements will allow of the central hall and class-rooms being thrown together if necessary. The erection of the school has been entrusted to Mr. John Colliver, of Truro.

Church Buildings, West Bromwich.—The foundation-stone of St. John's Church Hall and Sunday School, which are being erected in Newhall-street, West Bromwich, was laid recently. The new buildings are expected to accommodate about 350 persons, and the work of erection is being carried out by Mr. T. Hardy, the plans being supplied by Messrs. Wood & Kenrick, architects.

SANITARY AND ENGINEERING NEWS.

Sanitary Condition of Eltham.—Dr. Young has reported into the sanitary condition and administration of the parish of Eltham. The circumstances which led to this inquiry were as follows:—The return of sanitary inspectors prepared by the medical officer in December last showed that the sanitary inspector employed in the parish of Eltham also acted as road foreman, and in view of the fact that complaint had been made to the London County Council that the inspection of the parish was inadequate and that there was for that reason neglect to maintain it in a proper sanitary condition, the Council thought it well that Dr. Young should make an inquiry into the condition of the parish. On hearing of the proposed inquiry the Lee District Board intimated their intention to relieve the sanitary inspector of his duties as road foreman. Dr. Young's report shows that there is need in Eltham of more active sanitary administration than in the past, and especially of a more regular cleansing of cesspools. Dr. Young also expresses the view that, having regard to the conditions found to exist, and to the fact that the present inspector formerly was largely occupied in the work of road foreman, it would have been a better arrangement to have retained his services for that purpose, and to have appointed as sanitary inspector an officer who had been more actively engaged in sanitary work. There would also be advantage if the work of the sanitary inspector were to a greater extent superintended or controlled by the medical officer of health; and the question of the sufficiency of the office accommodation should be considered.

Sanitary Matters, Cornwall.—Mr. Silvanus Trevail, Chairman of the Sanitary Committee, in his report for July to the Cornwall County Council states that Newquay is to be congratulated on the erection and completion of an isolation hospital, which will be ready for use this summer, if required. Undoubtedly, if similar provision were made in every district, infectious diseases would be nipped in the bud and prevented from spreading, and the disease-rate would be considerably lowered. There were 728 births registered during the month against 582 in May, and the natural increase was no less than 413. Diphtheria has declined in St Austell Rural and St. Colomb, but has increased in Launceston Rural and Liskeard Rural. The filthy condition of school closets and foul drains had much to do with the increase of the disease in Launceston Rural. Typhoid fever has advanced to 26 cases with 1 death against 12 cases and 4 deaths for May; 10 cases have occurred in the Liskeard (Rural) district, and 4 in the St. Austell (Rural) district. At West Looe, in the former district, there is a large amount of sickness, 8 cases of typhoid having been notified there, probably due to insufficient and impure water supply. The water is being analysed, and a report on its condition is expected shortly. At Woodford in Pelynt parish the disease, it is stated, was due to the following causes:—"No closets, filthy farmyard, large pool containing drainage from cattle-houses close to house and smelling badly." It would be difficult to manufacture conditions more favourable to the production and spread of disease. At Polperro, too, there is a lamentable disregard of civilised sanitary conditions. The high disease-rate of 11·75 in the Liskeard Rural district is readily accounted for under such circumstances. The duty of being careful of the water supply and of preventing all undue waste is of paramount importance. Progress is being made with new or improved water supplies at Fowey and Bodmin, and the following places are urgently needing attention: Padstow, Wadebridge, Camelford, St. Agnes, and West Looe.

Sewage Scheme, Denholme, Yorkshire.—On the 15th ult., at the Denholme Mechanics' Institute, an inquiry was held by Colonel John Ord Hasted, R.E., on behalf of the Local Government Board, into an application by the Denholme District Council for powers to borrow the sum of 4,500*l.* for works of sewerage and sewage disposal for the Denholme district. The District Council was represented, among others, by Mr. G. Burr (Clerk) Mr. W. B. Woodhead (Engineer), and Dr. Jackson (Medical Officer). The Bradford Corporation was represented by Mr. W. T. McGowen (Town Clerk), and Mr. Watson (Waterworks Engineer). It was explained that in October, 1893, a similar application was made before one of the Local Government Board inspectors, the amount then asked for being 4,000*l.* That application was not granted because of objections raised by the Bradford Corporation to the effluent being conveyed into the Doe Park Compensation Reservoir. The Local Government Board had expressed the opinion that the effluent should be turned into the stream below the reservoir, and thus meet the objections of the Corporation. The present scheme thus differed only from that previously submitted in providing for the effluent being turned into the stream below the reservoir, and Mr. Burr expressed the opinion that the grounds of objection by Bradford had been met. Mr. McGowen opposed the proposal on the ground that the Council were proposing to do as before, only in a different way. The effluent by being turned into the beck below the Doe Park Reservoir would find its way into the Hewenden Compensation Reservoir, and that the Corporation strongly objected to. They were under obligations to maintain the volume and capacity of these reservoirs up to certain limits, and their difficulties in doing so would be increased by the action which was proposed. Other evidence having been given, the inquiry was concluded by a vote of thanks to the Inspector.

Water Supply, Wingate, Durham.—About fifteen months ago the Wingate Water Company was formed, with a capital of 5,000*l.*, and an agreement was signed on July 27 last year between the owners of Wingate Grange Colliery and the Water Company, the former agreeing to the Water Company carrying the water-pipes over any portion of their property, and arranging for a distinct and separate water-supply service to be placed in each of the cottages. Sanction was also obtained from the Easington Rural District Council and Highway Board for the mains to be laid along the highway adjacent to the Castle Eden portion of the village—the highway dividing the two townships—thus enabling the Company to supply the numerous houses on the Castle Eden side with water. On October 2, the tender of Messrs. C. B. Williamson & Co., for the carrying out of the whole of the work—erection of reservoirs, laying of pipes, &c.—was accepted, the carrying out of the scheme being under the supervision of Mr. Thos. Bower, C.E., of West Hartlepool. The reservoir stands on a piece of ground 478 ft. above the sea level, and has three compartments, each 18 ft. in width. It is built of concrete on a bed of 18 in. of pugged clay, the whole being arched in with brick work. The capacity of the reservoir enables the storing of 230,000 gallons, sufficient to supply the district for over a week. The water is pumped from the pit by a Hawthorne and Davy engine, capable of pumping 300 gallons per minute from a depth of 600 ft. The work in the pit has been done by Mr. Thomas Robson, colliery engineer, Wyngate. Over 5,000 houses will be provided with water.

Proposed By-laws as to Drains under the Metropolis Management Act, 1855.—On the 16th ult. the Public Health Committee of the London County Council informed the Council that they had drafted by-laws under Section 202 of the Metropolis Management Act, 1855, for regulating "the dimensions, form, and mode of construction, and the keeping, cleansing, and repairing of the pipes, drains, and other means of communicating with sewers, and the traps and apparatus connected therewith," and that they were awaiting a reply from the Local Government Board to a letter addressed to them on some important legal questions affecting the administration of the by-laws. They have now received the views of the Local Government Board on these questions, and have altered the by-laws in the sense suggested by them. They have at the same time thought it desirable to amend the draft in certain other particulars, and have given instructions for an amended copy to be sent to the Local Government Board in order to ascertain their views as to the proposed alterations. They hope that they shall soon be in a position to ask the Council to make the by-laws.

FOREIGN.

France.—The Académie des Beaux-Arts has as yet been unable to come to any decision in respect to the appointment of a successor to the late M. Barbet de Jouy. The election was on Saturday last, and after eighteen ballots, it was postponed to a further date. The order of candidates was as follows: MM. Charles Yriarte, Edouard Corroyer, Georges Berger, Phillippe Gille, Henri Jouin, Jules Comte, and Charles Ravaisson. It is fair to say that in each ballot M. Yriarte had the greatest number of votes.——The works which have been commenced for the building of a bridge to unite the extremity of the Passy footbridge to the Boulevard de Grenelle, have brought to light a door of communication between the Seine and the fortification ditches. This door, which goes by the name of the *Porte de la Cunette*, was built in the time of Louis XIII. or XIV., and is remarkably well preserved.——The second *Salle des Etats*, at the Louvre, is shortly to be converted into a picture gallery.——The exhibition of architectural designs for the *Grand Prix de Rome* commenced on Thursday this week, at the École des Beaux-Arts. The judgment will be given on August 3, and the exhibition will close on the 4th.——A theatrical and musical exhibition has just been inaugurated at the Palais de l'Industrie.——The committee appointed to judge the competition in the first class in architecture at the École des Beaux-Arts, has, out of ninety-four designs, awarded first and second medals to MM. Labourie, pupil of M. Blondel, Dussart, pupil of M. Mayeux, Grandjean, pupil of M. Redon, and Mignon, pupil of MM. Guadet and Paulin. The subject was a "Railway Station."——The rebuilding of the theatre at Bourg (Ain) is shortly to be commenced, from the plans of M. Ferret, architect.——On Sunday last, at St. Dié (Vosges), the monument to the memory of Jules Ferry was inaugurated. The monument, which is the work of M. Mercié, is of bronze on a granite base. Jules Ferry, with folded arms, stands on a pedestal, against which leans a figure which, whilst it is a likeness of Madame Jules Ferry, is meant for France. In her left hand is a flag, and her right hand rests on the shoulder of a figure who leans over the seated figure of a young Frenchman. The brother of Jules Ferry has offered to the town of St. Dié the sum of 100,000 frs. for the enlargement of the Hospital.——On the 13th September the monument to the memory of Doctor Alphonse Guerin, will be inaugurated at Ploërmel. The monument is the work of M. Barrau, sculptor.——On the 27th September the new Palais de Justice will be inaugurated at Louviers.——M. Adolphe Guillon, a well-known landscape painter, has just died. He worked principally at Vézelay and on the shores of the Mediterranean. He received several medals and the cross of the legion of honour.——The death of M. Paul Gabriel Merle is announced at the age of 49. He was a Paris architect, and during the war of 1870, he received the legion of honour for his brave conduct.

Germany.—Since twenty-five years the students of the Royal Technical College at Berlin, which was formerly known as the Building Academy, have published a series of plates illustrating all important historical buildings in line drawing and to a uniform scale. It is interesting to note that a so-called jubilee number of the series has now been published and that many of the collaborators of former years, whose names are chronicled in this number, have attained high positions in their professions.——In connexion with improvements for the preservation of historical buildings, the authorities of the Kingdom of Prussia are taking most energetic steps in this direction. Special permits have to be obtained from the Government before buildings of historical interest can be destroyed or, what is worse, "restored."——The German Government has sufficiently notified its intention to partake in the international exhibition at Paris in 1900. Dr. Richter, of the Home Office, will be the special commissioner, and an architect will be appointed to attend to the arrangements of the exhibits.——Of the many competitions which have lately been opened in Germany, one of the most important will be the competition for the County Hall of the rich province of Westphalia. Over 500*l.* are offered in premiums, and an influential committee will act as assessors, including the President of the Prussian Royal Academy.——Dresden sets the example of many municipalities for its liberality to the officials of the Works Department in that city. According to the resolution lately passed, a number of senior officials in the employ of this body will receive extra honorariums for services in connexion

with the new city hall and market-place. These amount to considerable sums in several instances.

UNITED STATES.—On July 3 an old three-story brick building in Main-street, Peoria, Ill., collapsed, killing one man, injuring two others, and demolishing an adjoining building. A violent storm had raged the previous night, and, beside being strained by wind pressure, it is thought that the foundations were partially undermined and certainly weakened by the high water which flooded all the buildings along the river front.——Forest Park, the new park now nearing completion in Brooklyn, N.Y., exceeds in area any of the parks in the immediate vicinity of New York. Its area is nearly 570 acres, while the well-known Prospect Park has 516 acres. Forest Park is two-and-half miles long, and varies in width from 1,000 to 2,500 ft.——The new City Hall of Paterson, N.J., was formally dedicated on July 6 in the presence of Governor Griggs, of New Jersey, and the city officials of Paterson. The building is of Indiana limestone, and has four stories and a basement. Construction was begun in 1893, and the cost has been about 300,000 dols. Messrs. Carrere & Hastings, of New York City, are the architects of the building.—*Engineering Record.*

MISCELLANEOUS.

APPOINTMENT.—The Executive Committee of the City and Guilds of London Institute have appointed Mr. W. E. Dalby, since 1891 University Demonstrator of Mechanism and Applied Mechanics at Cambridge, to the Professorship of Mechanics and Applied Mathematics at the Institute's Technical College, Finsbury, rendered vacant by the resignation of Professor Perry. Mr. Dalby served a seven years' apprenticeship in the locomotive works of the Great Eastern Railway, and gained a Whitworth Scholarship in 1883. In 1884 he entered the service of the London and North-Western Railway; graduated B.Sc. London in 1890, and in 1894 received the full degree of M.A. *honoris causâ* from the University of Cambridge.

PROPOSED HIGH LEVEL, LIVERPOOL. — A scheme for a high level in William Brown-street has just been adopted by the Parks, Gardens, and Improvement Committee of the Liverpool Corporation, after the consideration of three alternative proposals. The net cost is estimated at 140,000*l.* The high level begins at the northern end of St. George's Hall, and runs as a roadway 60 ft. in width to the junction of Manchester-street and Dale-street, near Hatton-garden. It is carried over the Old Haymarket at a height of 18 ft., by a bridge of one span of 100 ft. To retain the low level approach to Dale-street and Byrom-street it will be necessary to remove the plateau in front of the Free Library and alter the steps leading to that building, access to which will be from the new low level. The latter will have the same gradient as William Brown-street, which it will replace, and will be 60 ft. in width, widening towards Dale-street to 75 ft. It will be in direct line with Dale-street, and will considerably improve the approach to that thoroughfare and Byrom-street. An important feature of the scheme is that the proposed high-level roadway will be in direct line with London-road, and form a straight route to and from the Pierhead. It is proposed to add 15 ft. to St. John's Gardens on the north side, and to reduce the width of the Old Haymarket to 100 ft., adding 10 ft. on the west side to the buildings. The other schemes considered were a plan of the City Engineer (Mr. H. P. Boulnois) for continuing the plateau in front of the Free Library over the Old Haymarket in an oblique direction; and a scheme of the City Surveyor (Mr. Shelmerdine), showing the high-level of plan "S," with an arm branching south towards the top of St. John's-lane.—*Liverpool Post.*

REBUILDING KEW BRIDGE.—At the monthly meeting of the Middlesex County Council on the 23rd ult., the Highways Committee presented a report on the proposed rebuilding of Kew Bridge. The committee stated that they had had under consideration a report from Mr. Wolfe Barry with designs of a bridge in stone and also one in steel. The cost of a stone bridge would be 92,000*l.*, and that of a steel bridge 80,000*l.* Mr. Wolfe Barry recommended the stone bridge for adoption. The approaches would be the same in either case, and he proposed that the retaining walls which upheld them should be faced with granite. The cost he estimated at, on the Middlesex side, 8,500*l.*, and on the Surrey side 11,500*l.*, exclusive of additional land and buildings. For traffic during the construction of the new bridge it would be better to erect a temporary bridge rather than attempt to use any portion of the existing bridge. The cost of a temporary bridge he estimated at 6,000*l.*, but that amount would to a large extent be recouped in the increased facility for using the old stone in the new structure, and in other savings. A conference had been held between the sub-committees of Middlesex and Surrey on the report of Mr. Wolfe Barry, and the latter sub-committee had agreed to recommend the Surrey County Council to agree to the bridge being of stone and to approve Mr. Wolfe Barry's design. The Highways Committee now recommended the Middlesex County Council to approve of the design of a bridge and of approaches in granite: "that, subject to the approval of the Surrey County Council, Mr. Wolfe Barry be instructed to prepare working drawings and detailed specifications of the stone bridge and approaches with a view to tenders being obtained for the work; that it be referred to the county solicitor to negotiate with the owners of any property in Middlesex which might be required for the purpose of the new bridge and approach, and to report to the committee the terms upon which the property could be obtained." On the motion of Mr. H. R. Williams, the Chairman of the Committee, the recommendations were adopted.

PUBLIC IMPROVEMENTS, LOWESTOFT.—Colonel A. G. Durnford, R.E., an Inspector of the Local Government Board, attended at the Town Hall, Lowestoft, on the 21st inst., to inquire into the application of the Town Council to borrow the sum of 14,253*l.* for the widening of High-street, 1,540*l.* for the works of sea defence, and 200*l.* for a new fire-engine house at Kirkley. The Town Clerk placed the usual statistical information before the Inspector. He said the population of the town was 23,347 at the last census, the annual assessable value 96,000*l.*, the balance of outstanding loans under the Public Health Act 48,865*l.*, under local Acts, 1,000*l.* A loan of 14,253*l.* was now applied for for the purpose of widening the High-street. The Surveyor (Mr. G. H. Hamby) said the High-street was at present very narrow and very dangerous thereby. The width of the narrowest part now was 18 ft. 1 in., and the widest part 28 ft. At Mariner-street it was 21 ft. 9 in. wide, at No. 167 18 ft. 1 in., and at No. 177 21 ft. 9 in. It was proposed to make the street 40 ft. wide between the buildings, and to have footways of 7 ft. 9 in. or 7 ft. 6 in. on each side, and this would give a roadway of about 24 ft. 6 in. For the preservation of the Denes it was proposed to put down groynes of tee steel piling and 5-in. planking. Tenders had been received for the work for 1,440*l.* 8*s.* 7*d.*, and they had put another 100*l.* on for contingencies, making the loan 1,540*l.* The Town Clerk next gave information as to the proposed new engine-house at Kirkley.

THE NIJNI-NOVGOROD EXHIBITION.—Our contemporary in Germany, the *Deutsche Bauzeitung*, has published some interesting particulars of the great Russian National Exhibition which is being held at Nijni-Novgorod. This town, which is noted for its fairs, which bring together as many as 400,000 or 500,000 people within its precincts for about six weeks in the year, has for some time been preparing for the show which has now been opened. The ground covered by exhibition buildings is nearly equal in superficial area to that of the last Paris Exhibition, and there are no less than fifty-five important structures on the ground, together with some 120 minor pavilions, of which the former have all been erected by the Government, whilst the latter are the outcome of private enterprise. The main building of the exhibition is circular on plan, and has a diameter of about 1,000 ft., with a central courtyard measuring about 500 ft. across. By far the majority of buildings show the modern national Russian style, and there is apparently much successful woodwork in connexion with these buildings. The forestry group in the exhibition appears to be specially well housed. The exhibition grounds are outside the town and on the Moscow and Nijni-Novgorod Railway. The exhibition has its own station, from which the special exhibition railway runs through the grounds.

MODEL OF ANCIENT ROME, LIVERPOOL.—Those who knew the Liverpool Museum thirty years ago, says the *Liverpool Mercury*, may remember that in the basement room containing the Egyptian exhibits there stood a large model of Ancient Rome. Though somewhat sombre and grimy in colour, and full of inaccuracies, it was nevertheless of great interest to the student of Roman history and archæology. Unfortunately, the overcrowded condition of the Museum necessitated the removal of the model, and for nearly a quarter of a century it has been lying hidden in the vaults beneath. Its value and interest have, however, of late induced the Museum and Arts Committee to direct its restoration. Mr. Dyall, the curator of the Art Gallery, took up the matter warmly, and, fortunately, one of his employés, Robert Haselden, was able to undertake the practical work of construction, painting, and decoration; and this, under a little amateur direction as regards archæological details, he has accomplished in a most satisfactory manner. Much time and labour have, in fact, been expended in altering the model so as to bring it into accordance with the views of modern archæologists. At the same time it has been extended; the Tiber, with the island and bridges, and also a large part of the region of the Flaminian Circus, have been added. In order to protect the model from dust and injury, the Committee (aided by a donation from a member) has caused it to be enclosed in a light steel and plate-glass case. The model represents nearly a square mile of the central part of Rome as it existed about the year A.D. 335, towards the end of the reign of the Emperor Constantine.

THE WHITE HORSE AT KILBURN, YORKSHIRE.—Recently, this well-known Yorkshire landmark, which is laid on the side of the Hambleton range of hills, about three-quarters of a mile to the north of the village of High Kilburn, and about seven miles to the south-east of Thirsk, has undergone a thorough renovation. For the past twelve months the figure, through neglect, had almost become obliterated, and what used to be seen as far as Harrogate, and almost the length of the Vale of Mowbray, could scarcely be discerned beyond a few miles distant. Since the figure, which is 180 yards long and eighty yards high, and which covers three roods of ground, was completed on November 4, 1857, by the projector, Mr. Thomas Taylor, a native of Kilburn and for many years a resident in London, the landmark was kept in order by subscription amongst the inhabitants of Kilburn and the surrounding farmers. The projector dying something like a quarter of a century ago, the figure was neglected and got from bad to worse, and at the commencement of the year was so overgrown with weeds that it was found necessary to ask for outside aid for its renovation, or otherwise to allow it to become obliterated altogether. Four tons of Hambleton lime have been used to cover it, nine men having been employed on the work for two days and also six men for another day, and the work of remodelling the figure has been under the superintendence of Mr. M. R. Jones and Mr. Walker, of Kilburn. The figure has undergone a thorough drainage down the back, so that there is now no fear of the recurrence of last year's destruction with any sudden storm of hail or rain.—*Newcastle Chronicle.*

THE "GRANGE," BROOK GREEN.—A new girls' school is to be built at Hammersmith, in pursuance of the Charity Commissioners' scheme for administering Dean Colet's endowment. The Mercers' Company have acquired a site at Brook Green—at a cost, it is stated, of 11,000*l.*—on which now stand the old Convent of Our Lady of Sion, and the "Grange," formerly the home of Sir Henry Irving. Of the latter house, as altered and enlarged by Messrs. Stimpson & Co., under the directions of Mr. Fred. Pinches, we published a view (the garden front) and plan, on September 13, 1889. The house, it seems, was originally built about two hundred years ago; in the course of the recent changes evidences were found of some previous alterations that had been made probably in George II.'s reign; but it is not so old as has been represented by some writers in the daily Press.

FATAL BUILDING ACCIDENT, GOWER-STREET.—One man was killed and seven were injured on the 23rd ult. through the collapsing of an iron and concrete floor at some new buildings in course of erection for Messrs. Maple & Co., Gower-street. At 9.30, while a number of men were engaged in laying down the floor, the supports of the iron girders gave way, or slipped, throwing the mass of material on a number of men working underneath, and precipitating those working above into the vault. A man named Cook was discovered to be dead, and seven others were more or less injured.—An inquest was held on the 27th ult. by Dr. Danford Thomas, at St. Pancras Coroner's-court, on the body of Cook. The evidence showed that Messrs. W. Scrivener & Co. were making for Messrs. Maple a roadway over the latter's new basement premises. Girders were placed across the basement to support the roadway, the ends of which were fixed in the walls of the building. William Robert Hunt, general foreman of the works, stated that the deceased and other workmen were cutting away preparatory to fixing another girder when the collapse ensued. This cutting or chipping might have caused it. The brickwork under the joist supporting the girder gave way first. This brickwork proved inadequate to the weight it had to bear. Mr. Henry Woodzell, the architect of the works, ascribed the collapse to the cutting away. Had a column been built up or a strut placed beneath the girder before the cutting away began, all risk would have been obviated. The jury found a verdict of accidental death, adding that in their opinion the bearing which held the girder was insufficient for the weight.

ELECTRIC LIGHTING, BATTERSEA MUNICIPAL BUILDINGS.—At the meeting of the Battersea Vestry recently, the Electric Lighting Committee's report upon the tenders which were submitted for the electric lighting of the Municipal Buildings was brought up for consideration. In response to the invitation, thirty-five tenders were received, and upon the recommendation of the consulting electrical engineer, Mr. Robert Hammond, the following have been accepted by the Vestry, subject to the respective contractors entering into contracts with two sureties for the due and satisfactory execution of the work:—Section A: Boilers and accessories, Messrs. Spurr, Inman, & Co., Ltd., 668*l.* 10*s.*; Section B: Engine-house plant, Messrs. Johnson & Phillips, 1,030*l.* 15*s.*; Section C: Main switchboard and instruments, Messrs. Laing, Wharton, & Down, 143*l.*; Section D: Accumulators, the Chloride Electrical Storage Syndicate, Ltd., 314*l.*; Section E: Wiring and fittings, Mr. A. H. Wood, Westminster, 1,042*l.* 13*s.* 6*d.* The Vestry passed a resolution giving the Committee power to carry the scheme into effect, and having regard to the urgency of the matter the Vestry has been authorised to enter into the necessary contracts for the execution of the work.

THE COMMISSIONERS OF SEWERS.—The usual fortnightly meeting of the Commissioners of Sewers was held on the 28th ult. at the Guildhall, Mr. B. Turner in the chair. The Streets Committee recommended the appointment of a residential engineer to

supervise the works of the Central London Railway so far as it affected the streets, sewers, and subways. Three names were submitted, and eventually Mr. Wm. Burch, M.Inst.C.E., was elected. In reply to Mr. Lobb, Mr. Hudson said the nuisance of engine-drivers of the Chatham and Dover line letting off the water of their engines on the bridge crossing Ludgate-hill and drenching foot passengers in the streets was receiving attention, and the railway company had been communicated with. A letter was read from the Local Government Board with reference to the East London water supply, drawing attention to the fact that the water could not be used for watering the roads. The clerk (Mr. Montague Bates) said the City were not concerned, as they drew no water from the East London Water Company.

Appointment of Sanitary Inspectors.—The Local Government Board have sanctioned the appointment of Messrs. E. F. Kemp and J. Mansell as additional sanitary inspectors in the parish of Hackney, at salaries of 104*l.* per annum, rising by annual increments of 6*l.* 10s. to 156*l.* per annum.

The "Painted Tapestries" at the Hotel Cecil.—In regard to our "Note" on these (page 6 *ante*) Messrs. Waring write to say that they did not execute the tapestry in the "Prince's Room," and add—"Your critic was not mistaken in affirming that there were 'evidences of the application of oil colour to heighten the effect' for the plain fact is that the tapestries are entirely painted in oil colour. It is well understood that in the decoration of large surfaces, paintings are almost invariably executed on canvas—*i.e.*, the wove web. If the canvas has two sides, one prepared with white and the other in which the texture of the flax material is clearly shown, we fail to understand why it should be wrong to use the side which gives us a better result in work of this class." Then we can only ask, why did Messrs. Waring use the word "tapestries" at all? They asked us to look at what they called "painted tapestries." The word 'tapestry' by common use and consent implies a design or picture executed in woven materials. To paint upon the rough woven surface and call it "tapestry" is really suggesting the idea that it is an attempt to imitate tapestry by a cheaper and easier process.

CAPITAL AND LABOUR.

The Strike in the Leeds Building Trade.—A meeting of the master builders affected by the strike was held on the 23rd ult. at the Royal Exchange Buildings, Leeds, for the purpose of receiving a report from the Strike Committee regarding the negotiations with the men's representatives, and of considering a communication from the latter giving the men's decision with reference to the proposals recently submitted by the Committee. The meeting unanimously endorsed these proposals, and then decided to adjourn for a month. With regard to the wheeling of bricks and mortar on scaffolding planks, the employers denied the assertion of the men that they (the employers) desired to have such work done generally, declaring that they should only require it where it was advisable, and not attended by danger to the workmen.

LEGAL.

LONDON BUILDING ACT, 1894.

DICKSEE *v.* SLOMAN: BAD MORTAR.

At Lambeth Police-court, on the 25th ult., Mr. Hopkins gave his decision upon two summonses taken out against Mr. Thos. Sloman, of Albany-road, Camberwell, for using mortar not in accordance with the by-laws in the erection of four shops and dwellings, Nos. 39, 41, 43, and 45, Westmoreland-road, Walworth. The first summons, taken out under Section 153 (1) was for default in complying with the District Surveyor's notice of irregularity, served under Section 151, requiring him to take down the brickwork put together with the mortar complained of; and the second summons was taken out under the by-laws for the infliction of a penalty for a breach of the provisions of the by-laws in using bad mortar. Mr. T. Seager Berry, of the Solicitor's Department, London County Council, appeared for Mr. Bernard Dicksee, the District Surveyor, and Mr. Hudson appeared for the defendant.

The case was heard on April 15 and 29, May 5, and July 7 and 18, when evidence was given for the prosecution by Mr. Bernard Dicksee, by Mr. E. R. Hewitt, District Surveyor for Southwark, and by Mr. W. J. Dibdin, Chemist to the London County Council. The analysis of eighteen samples of the mortar showed that they contained from 7·39 to 10·41 per cent. by weight of earthy matter, from 8·0 to 20·95 of carbonate of lime, from 46·3 to 59·09 of grit, and from 5·68 to 12·01 of chemically pure lime, and that the proportion by volume of commercial lime to grit (broken brick) and all other solid matters varied from 1 of lime to 4·4 of grit, &c., to 1 of lime to 10·2 of grit, &c., averaging 1 to 6·85, instead of 1 to 3 as required by the by-laws. Evidence for the defence was given by Mr. H. T. Gordon and Mr. C. V. Hunter.

In giving judgment Mr. Hopkins said:—

"There are two summonses in this case; I will deal with the second one first. It is a summons against the defendant as builder, for an offence against the London County Council by-laws made under the Statute, the allegations being that the mortar used by the defendant upon the buildings in question is not up to the by-law standard. The by-law in question is as follows:—'The mortar to be used must be composed of freshly-burned lime and clean sharp sand or grit, without earthy matter, in the proportion of one of lime to three of sand or grit.' The evidence is that samples of the mortar were taken from between the bricks of the buildings and submitted to a chemical analysis. How is the composition of a compound like mortar to be ascertained? Surely, most fairly, by analysis, and the more minute and accurate the analysis, the more accurate the information as to the composition of the mortar. The analysis shows, without leaving room for doubt, that this mortar contains earthy matter, that the proportion of lime in its composition is considerably less than one part of lime to three parts of sand or grit. A case, therefore, of an offence against the by-law is *prima facie* raised, and requires an answer. What is the answer given? It is first said that no case is made out, for the reason that the analysis is an analysis by weight, that the mixture is a mixture by volume (both as contemplated by the by-laws and, as a fact, made), and that the correction used for turning weight into volume is a mere rule of thumb correction to the accuracy of which the chemist will not swear. As to that, I have only to say that I am not satisfied that the by-laws contemplate a mixture by volume only, but that if they do, the correction allowed is a correction in favour of the builder, that is to say, the analysis is more unfavourable to him without it, and that it is the correction constantly used by chemists in such matters, and that the mere objection that it is not sworn to as absolutely accurate would not induce me to say that the case does not require an answer on its merits. The answer given is not to call evidence to prove as a fact the actual composition of the mortar, whether as to ingredients or as to actual mixing; but the answer given is to complain that the analysis is too accurate, to put into the witness-box architects and practical men who have examined the building and the mortar, and who have had opportunities of taking their own samples, and of examining the samples of the London County Council, and who say this (I paraphrase, I hope accurately, the evidence of all of them): 'We have submitted the mortar to certain practical tests, and have examined it and the brickwork *in situ*: we describe the mortar as good mill mortar, but in our own buildings we never allow mill mortar to be used.' I am satisfied that this mortar is not up to by-law standard, and upon that summons I inflict a nominal penalty of 20s.

Unfortunately that does not dispose of the matter, because the defendant is further summoned, and is asked by that summons to show cause why an order should not be made upon him to carry out the terms of a notice which has been served upon him by the District Surveyor. On this part of the case no point of law has been taken, and I do not refer to the statute. The effect of my making the order asked for, no doubt, is that the District Surveyor is put in the position, in consequence of cumulative penalties for disobedience, of being able to make his own terms with the builder. This is really the important part of the case, and I regret that the parties did not come to terms and save me the responsibility of deciding upon a matter that may be very expensive to the builder. It is, at least, arguable that I have no discretion in the matter, but that, having regard to my judgment as to the facts, I am bound to make the order asked for. However, assuming that I have a discretion, ought I to exercise it? I have come to the conclusion that in this case I ought not to exercise it in favour of the builder. When I find an official person having special technical knowledge—viz., the District Surveyor—supported by the London County Council in asking, so to say, for his pound of flesh under the statute, I am bound to assume that he is a reasonable being asking for no more than (having regard to his responsible duties) he believes it his duty to ask for, and I think I ought to search for some good reason why his demands are not to be granted. In this case I find no such reason. We have had, as I have said, no evidence as to the actual composition of this mortar, but, from certain admissions and contentions, I think it may be taken as certain that the place of clean sharp sand or grit was taken by broken brick and brick rubble. Broken brick may be used under the by-laws. But the contention boldly is that there is no obligation to clean bricks so used, and I have no doubt that they were not cleaned in this case. That contention, logically carried out, leads to this, that for the manufacture of London mortar it matters not that the bricks are foul by reason of the accumulation upon them of London dirt, by reason that they may be the sooty bricks from the inside of a chimney-stack, by reason that they have clinging to them masses of creeping plants; all may go into the mill to be mixed up for the new mortar. I can do nothing to support such a contention. The whole of this case leads me irresistibly to the conclusion that this mortar is of very inferior quality, and I think I ought to leave the District Surveyor a free hand in the matter. There will be an order requiring the defendant to comply with the notice of the District Surveyor within one month, and pay five guineas costs."

A QUESTION FOR HOUSE OWNERS.

At the Thames Police-court, on the 24th ult., Mr. B. Hobbis, of 51, Moorgate-street, was summoned by the London County Council for expenses in respect of a dangerous structure. The first point was that, before the survey was made, the matter should have gone before the Council, and the requirements to survey should then have come from that body, and not from its officers, according to Section 103 of the London Building Act, 1894. It was admitted that the case never went before the Council itself, and at the first hearing the magistrate said he was disposed to dismiss the summons and allow 1*l.* 1s. costs. The second point was that the expenses were recoverable under Section 109 of the Building Act, 1894, and that therefore they must be expenses which had been incurred in obtaining an order under the Act, viz., to take down, or secure, a dangerous structure. In this case no order was obtained, the previous summons (as to dangerous structure) having been withdrawn. It was admitted that the proceedings in such matters were left to the Superintending Architect.

Mr. Mead said he must dismiss the summons on the ground that the owner was only liable for the fees in the event of the preliminaries required by Section 103 being complied with. There was no evidence that the Council did require a survey, or cause notice to be served on the owner requiring him to take down. The second point did not arise.—*Morning Advertiser.*

A SURVEYOR'S CLAIM FOR FEES.

On the 22nd ult., at the North London Police-court, Mr. Bros had before him a singular point as to the fees of District Surveyors in the case of Legg *v.* Keeves. The complainant was Mr. George Legg, one of the District Surveyors of Hackney, and the defendant Mr. J. H. Keeves, of Highbury-terrace. The defendant is the owner of a number of houses in Goring-street, Hackney, and the present claim was for certifying a plan for five of these old houses. The complainant's charge was ten guineas—two guineas for each house—but the defendant contended that as there was only one plan there should be only one fee. Complainant said that under the 5th subsection of Section 13 of the Building Act he could claim a separate fee on each of the houses in a street under 40 ft. wide.—The defendant said that he had twenty-five houses in another street, and if the complainant's case were correct he could claim fifty guineas for certifying the plan of those houses, notwithstanding that they were all on one plan.—Mr. Legg said that the Act laid it down that for certifying an old building the fee should be 2*l.* 2s., but Mr. Keeves replied that he as a surveyor did not read the section as applying to separate buildings, except there were separate plans.—Mr. Bros: In this case how many plans have been certified?—Mr. Legg: One.—Mr. Bros: Are there any cases on the point?—The Defendant: No, I believe not. I have been to the Surveyor's Institution, and I was there informed that this was the first case of the kind that had arisen.—Mr. Bros: It does seem to me absurd that the surveyor should charge separately for every house included in one plan. I shall only allow 2*l.* 2s.—Mr. Legg: Will you grant me a case?—Mr. Bros: Yes.—Mr. Keeves asked for costs, as he had been brought up from Eastbourne to answer this claim.—Mr. Bros refused to allow costs.—*Daily Chronicle.*

A BRADFORD ARBITRATION.

At the Alexandra Hotel, Bradford, an arbitration was held on the 22nd ult., before Mr. James Ledingham, F.R.I.B.A., as sole arbitrator, in regard to an obstruction of certain ancient lights in a portion of Quebec Works, Quebec-terrace, the property of the trustees of the late Mr. Charles Nelson, brassfounder, alleged to be caused by a building in the course of erection by Mr. S. Illingworth, the owner of adjoining land on the north side, to restrain which an action had been commenced in the Chancery Division, the questions in dispute in this action being the subject of the reference. Mr. L. A. Kershaw, Q.C., instructed by Mr. R. J. Sugden, and supported by Mr. Eli Milnes, architect, appeared for the trustees, and Mr. J. J. Wright, instructed by Messrs. Gaunt, Hines, & Bottomley, for Mr. Illingworth, for whom Mr. Rhodes Calvert appeared as architect.

RECENT PATENTS:

ABSTRACTS OF SPECIFICATIONS.

23,058.—Tile Press: *W. P. Thompson.*—Patentee claims (1) a press for making tiles, &c., characterised by the press stamp being composed of several plates movable successively against the material to be pressed, for the purpose of producing an even distribution of the same by the subdividing and successive pressing of the material, and of producing an homogeneous product; and (2) in a press of this kind a pressing stamp formed of separate vertically movable plates, &c.

2,264.—Hot-water Fittings: *C. P. Kinnell.*—Invention consists essentially in manufacturing tee-pieces, branch-pieces, outlet syphons, and other hot-water con-

nections with a directing diaphragm in the internal area thereof.

6,330.—BUILDERS' SCAFFOLDS: *P. Jensen.*—Consists of ladders set at right angles to the surface of wall, united by diagonal struts, girders and platform-boards resting on rungs of ladders. Adapted especially for work on outside walls.

6,670.—PORTABLE HOUSES: *C. H. Leonard.*—Invention consists in forming framing of house, &c., of tubular iron. Tubular iron studs (having nuts on their ends) pass through the sills of house. Rafters are of same material as studs, and locked to ridge-pole by iron casting. Panels for walls and roof can be of wood, grooved at edges to receive studs and rafters.

10,088.—WATER-CLOSET VALVES: *W. J. Bragger.*—Relates to a new form of valve for flushing closets and automatically closing itself quietly. Patentee adopts a device with a cylinder, in which a valve-operated plunger is designed to work, which valve is operated by a valve-stem actuated by a lever connected to a plug, which latter is partially rotated when it is desired to flush the closet, and at the same time the stem is raised by the lever, as is also the plunger carrying the piston, and the water in the cylinder is thus allowed to escape. After the lever-operating turning plug is released the valve in the plunger in the cylinder closes, and as the plunger gradually lowers under the pressure of the incoming water into the top of the cylinder the plug is slowly closed, and the water which has passed through the automatically-operated plug is carried away through a suitable duct to a trap, which, always being filled, will prevent any hissing and noise, which is caused by the water coming out in a spray when the parts are closing. By the use of this trap, the patentee claims, no perceptible noise will be made, as the air cannot enter, and hence the water cannot spray.

11,862.—COUNTERBALANCING WINDOW SASHES: *W. Hall.*—Supposing the sash to be supported on an endless chain, passing round two rotatable chain wheels, patentee fixes to the axis of a wheel gearing into the chain wheel two eccentrics, to the periphery of one of which is attached the end of a line leading over a pulley to a spring to which the line is coupled, these eccentrics being so arranged that one of them acts with an increasing leverage, while the other acts with a decreasing one, and *vice versâ*. Thus, if one spring at the beginning of lowering the window commenced with 50 lbs., and the other spring with 10 lbs. to sustain the 60 lbs. weight of the sash, then when the sash had been completely lowered to the bottom, the first-mentioned spring would only exert some 10 lbs., while the other spring would have taken up the 50 lbs. This being the general principle, patentee describes and claims several modifications.

15,102.—OPENING AND CLOSING SASH WINDOWS: *W. Youlten.*—In this invention patentee provides in the frame of the sash a suitable grouping of pulleys so placed that cords can be passed over them and be attached to the sash balance weight. By this arrangement, when the cords are pulled downwards from within a room, the weights loose a sash-balancing weight practically equal to the force of the pull, and the sash consequently drops from its closed position with a velocity proportioned to the force of the pull exerted. By the adoption of another cord the sash can be readily drawn up.

15,191.—WINDOWS: *E. A. Radclyffe.*—Patentee does away with sash weight and boxing by dividing windows into four, six, or other equal number of sashes other than two, and carrying them on pulleys fixed at top of frame suspending each pair of sashes by chain, cord, or other suitable material.

15,256.—SASH WINDOW FITTINGS: *G. Anderson.*—Inventor swivels sashes by swivel plates formed with slots and sockets, so that sash can be opened inwards, and provides for engaging and disengaging the counterbalance cords in swivelling the sash from out and in respectively.

17,131.—COWLS: *W. Harrison.*—Patent is applicable to cowls either for smoke-preventing or ventilating purposes. Two plates are pivoted one upon the other, supported in the tube or shaft of the cowl in such a manner that under the action of the wind the said plates will be caused to oscillate in order to close the side of the tube or shaft against which the wind strikes.

19,706.—VENTILATORS: *J. Whipp.*—Patent is adapted to sash windows. The upper sash being drawn down a little, inventor places in aperture a strip of wood or metal (preferably the latter) slotted or perforated in groups. Over this is placed a cover of oiled silk, leather, cloth, or the like, held by top edge, while lower edge is free, and over this again a baffle plate to protect said leather or fabric from inclement weather. Heated air and gases easily make their exit through the slots, while the cover obviates entrance of wind and draughts.

NEW APPLICATIONS FOR LETTERS PATENT.

JULY 6.—14,884, W. Mitchell, Liquid for Removing Varnish.—14,913, J. & R. Kershaw, Wood Sawing Machinery.

JULY 7.—14,985, W. Cotter, Sash Fasteners.—14,988, A. Browne, White Lead.—14,989, J. Haven Land, Attaching Handles to Files.—14,990, H. Foster and A. Beresford, Ventilating Fans.—15,007, E. Jacqmain, Fire Grates.—15,071, A. Boulh, Hinges, 15,077, T. Wakeling, Manholes and Covers to Sewers.

JULY 8.—15,083, T. Marsters and J. Radford, Cutter for Glazed Earthenware Pipes, Tiles, &c.—15,096, J. Pollock, Machinery for Carving Stone, Wood, &c.—15,100, J. Jones, Brick Making Machinery.—15,116, W. Munden, Flushing Device for Water-closets.—15,120, F. Tunks, Baker's Oven.—15,124, A. Mantle, Kitchen Ranges.—15,132, R. Stewart, Boring Bits, &c.—15,138, A. Hopton, Making Stamped Step Treads.

JULY 9.—15,237, B. Gypson, Attaching Door Knobs to Spindles.—15,266, J. Taylor, Opening and Closing Sliding-sash Windows.—15,272, W. Thompson, Keyhole Escutcheons, Finger Plates, &c.—15,274, G. Thiemike, Bricks.

JULY 10.—15,307, T. Watson, Safe-guard for Preventing Accidents while Engaged at Work upon the Outside of Windows.—15,345, T. Kemp, Air-tight Cover for Drain Inspection Pipes.—15,348, G. Pearce, Mortising Machines.

JULY 11.—15,435, E. Van Putten, Drain or other Traps or Gulleys.

JULY 13.—15,494, R. Harper, Disinfecting Buildings, Rooms, Lavatories, &c.—15,520, K. Hergewhahn, Process for the Preparation of Masonry (in marble, granite, &c.), for Pillars, Pedestals, Door and Window Cases, Monuments, &c.

JULY 14.—15,565, W. Penny, Double Action Window Sashes.—15,578, F. Mann and H. Akers, Door Stops.—15,583, H. Hinckley, Door Locks, &c.

JULY 15.—15,688, R. Evered, Water-closets.—15,706, L. Pickery, Sawing and Cutting Stone, Slate, &c.

JULY 16.—15,733, J. Wilson and A. Coulthurst, Sanitary Pipes and Joints.—15,738, G. Kinsey, Stoves.—15,470, H. Turner, Cutting-Tables of Brick Machines.—15,753, R. Tigler and W. Surmann, Brick Presses.

July 17.—15,823, M. Albrecht and E. Nöbel, Water-closets.—15,824, J. Butterworth, Fireplaces.—15,828, E. Fisher, Door Holders or Stops.—15,836, C. Armstrong, Dripless Tap.

JULY 18.—15,923, John Shanks, Combined Baths and Lavatories.—15,949, G. Fisher, Safety Appliance for Wood-working and other machinery.

PROVISIONAL SPECIFICATIONS ACCEPTED.

11,020, H. Plunkett, Windows.—12,016, J. Edmundson, Sanitary Appliances Applicable for Tenement Houses and Other Places, useful more especially for Preventing Stoppage of the Drains.—12,673, C. Marson, Cement for Plastering on Walls or Ceilings.—13,356, A. Hocking, Waste or Slop-Water Closets.—13,613, C. Bastand, Window Sashes.—13,684, R. Wallwork and A. Wells, Coating Surfaces with Paint, &c.—14,143, S. Lawrence, Sash Fasteners.—11,168, 11,169, 11,170, The Iron Ring Inventor's Syndicate, and H. Johnson, Automatically Discharging Disinfectant Liquids into the Water in Cisterns from which Water-closets, Urinals, &c., are Flushed.—11,391, E. Fletcher and Others, Fastening for Downspouts, &c.—11,765, H. Swain, Self-cleansing Sanitary Pulley.—12,674, C. Marson, Material for Covering Walls or any other Article with Glass in place of Ordinary Plastering.—12,877, J. Russell, Register Stoves or Grates.—13,352, J. Drummond, Glazing Roofs and Skylights without Putty and Excluding Dust and Water.—13,360, H. Besson, Non-Slipping Material for Stair Treads, Steps, Passages, &c.—14,115, E. Case, Construction or Arrangement of Shore Groynes.—14,156, T. Whitehead, Extracting and Weatherproof Ventilators.—14,167, J. Pitt, Windows.—14,170, C. Löhr, Pavement or Paving Material Combined with Metallic Insets.—14,597, F. Riddiford, Nail.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to opposition for two months.

14,430, W. Franklin, Water Closets.—17,241, W. Ede-Clendinnen, Combined Portable Tip Lavatory Basin and Frame.—22,697, J. Monier, Chimney Cowl.—875, W. Waller, Tiles.—12,913, F. Townsend and H. Wheeler, Sash Fasteners.—13,454, G. Jennings, S. Jennings, and J. Morley, Supplying Water to Water-closets, &c.—17,304, E. Shoreland, Ventilators.—17,559, J. Preston, Fittings for Sash Windows.—18,130, H. Collett, Stoppe. in Connexion with Intercepting Traps.—12,573, S. Putnam, Urinals.—13,477, E. Woollard, Hinges.

SOME RECENT SALES OF PROPERTY.

ESTATE EXCHANGE REPORT.

July 9.—By KETTLE & BUTLER.

Wimbledon.—Quicks-rd., a block of building land, f.	£525

By H. G. BETTS.

Brixton.—33, Arlingford-rd., u.t. 78 yrs., g.r. 6*l.* 10s.	210
Streatham.—2, 4, 5, and 6, St. George's Villas, u.t. 76 yrs., g.r. 26*l.* 2s.	1,160

By NEWDON & Co.

Pentonville.—61, 67, and 69, Pentonville-rd., u.t. 13¾ yrs., g.r. 30*l.* 12s., r. 160*l.*	830
Stoke Newington.—12, Somerford-grove, and l.g.r. 5*l.*, u.t. 14¾ yrs., g.r. 8*l.* 11s.	100
Barnsbury.—59, Arundel-sq., u.t. 53 yrs., g.r. 8*l.*, e.r. 48*l.*	350
Holloway.—58, Tufnell-pk.-rd., u.t. 68 yrs., g.r. 9*l.*, r. 50*l.*	415

By STIMSON & SONS.

Old Kent-rd.—13 and 15, Glengall-rd., u.t. 25½ yrs., g.r. 8*l.* 8s., r. 76*l.*	510
Peckham.—13, Linden-grove, u.t. 52 yrs., g.r. 7*l.*, e.r. 55*l.*	415

By HOLLAND & ANDREWS (at Chelsea).

Clapham.—99, 101, 103, and 105, Leathwaite-rd., u.t. 85½ yrs., g.r. 26*l.*, r. 128*l.*	1,005
Fulham.—18 and 20, Maxwell-rd., u.t. 60 yrs., g.r. 9*l.*	500
Wandsworth.—6 to 16 (even), Chatham-rd., f., r. 187*l.* 4s.	1,885

By HODGEN BROS. (at Chichester).

Bosham, Sussex.—Enclosures of land, 12a. 1r. 8p., f.	620
Stable premises and 9a. 2r. 23p., f.	720
West Ashling, Sussex.—Enclosures of land, 17a. 2r. 8p., f.	600
House and 0a. 1r. 30p., f.	210
Funtington, Sussex.—Enclosures of land, 59a. 1r. 13p., f.	1,760

July 9 and 10.—By DOUGLAS YOUNG (at Ilford).

Ilford, Essex.—Coventry-rd., 52 building plots, f.	4,303
Bathurst-rd., 19 building plots, f.	1,430
Granville-rd., 5 building plots, f.	370
Wellesley-rd., 67, building plots, f.	5,230
Cranbrook-rd., 23 building plots, f.	4,645
Balfour-rd., 98 building plots, f.	7,549
Thorold-rd., 69 building plots, f.	5,157
Brisbane-rd., 3 building plots, f.	159
Ley-st., 35 building plots, f.	2,108

By WAINWRIGHT & HEARD (at Frome).

Nunney, &c., Somerset.—Enclosures of land, 130a. 1r. 29p., f.	3,845
Enclosures of land, 37a. 3r. 21p., lifehold.	900
Cottages and enclosures, 38a. 0r. 24p., f.	1,387
"Nunny Wood Farm," 102a 3r. 0p., f.	1,100
Enclosure of land, 10a. 1r. 1p., f.	370
"The Manor Farm," 264a. 3r. 38p. f.	3,350
"The Manors of Nunney Castle and Nunney Maudley," and a relic of Nunney Castle, 1a. 1r. 3p.	565
Various cottages, garden ground, &c., 2a. 0r. 24p., f.	861
Houses, cottages, and enclosures, 25a. 2r. 13p., f.	866

July 10.—By A. PREVOST & SON.

Mile End.—6, Turner-st., u.t. 13¾ yrs., g.r. 3*l.*	140

By WOODS & SNELLING.

Lambeth.—27 and 29, China Walk, f., r. 67*l.* 12s.	560

By H. C. NEWSON.

Suffolk.—"The Manor of Great Ashfield," with its rights and appurtenances	1,030
"The Manor of Wetherden Hall," with its rights and appurtenances	280
Part of the Great Ashfield Tithe Rent Charge	1,060

By DUNCAN & KIMPTON.

Hammersmith.—82 and 86, Fulham Palace-rd., f., r. 85*l.*	1,400
Holloway.—42, Vorley-rd., u.t. 53 yrs., g.r. 6*l.*, r. 30*l.*	£245
Blackfriars.—186, Blackfriars-rd., f., r. 100*l.*	1,510
194, Blackfriars-rd., u.t. 26 yrs., g.r. 50*l.*, r. 70*l.*	100

By ROBERT REID.

Lambeth.—New-cut, f.g.r. 13*l.* 10s., reversion in 14 yrs.	1,650
New-cut, f.g.r. 75*l.* 1s. 8d., reversion in 11 yrs.	5,600
Waterloo-rd., f.g.r. 75*l.*, reversion in 13 yrs.	2,200
St. Luke's.—6, 7, 8, and 9, Norway-st., f., r. 118*l.*	1,550
Regent's Pk.—Stanhope-ter., f.g.r. 42*l.*, reversion in 27 yrs.	1,170

By G. B. HILLIARD & SON (at Chelmsford).

Chignal Smealy, Essex.—"Chignal Smealy Hall Farm," 125a. 3r. 28p., f.	1,350
Enclosure of land, 50a. 1r. 7p., f.	550

By WINTERTON & SON (at Stratford-on-Avon).

Bearley, Warwick.—A freehold farm, comprising 123a. 1r. 6p. (including timber)	2,300

By DRAWBRIDGE & ANSELL (at Horsted Keynes).

Horsted Keynes, Sussex.—House and enclosures, 7a. 3r. 5p., f.	630
"Swithe Cottage," and enclosures, 120a. 1r. 10p., f.	730
Enclosure of meadow, 13a. 3r. 21p., f.	335

July 11.—By J. HOWELL, THOMAS, & SON (at Carmarthem).

Carmarthen.—"The Ystrad Estate," 475a. 3r. 11p., f.	23,814
Llangewad, &c., Carmarthen.—Five farms containing 755a. 2r. 27p., f.	12,940
Enclosures of land, 32a. 2r. 39p., f.	575
Carmarthen, Johnstown.—House, four cottages, and plot of land, f.	605

By W. DEW & SON (at Carnarvon).

Llanllyfni, Carnarvon.—"Tyddyn Agnes" farm and quarry, 60a. 2r. 35p., f.	2,600

By SALTER, SIMPSON, & SONS (at Norwich).

Long Stratton, Norfolk.—Houses, business premises, and cottages, 5a. 2r. 24p., f.	2,403
Enclosures of land, 13a. 3r. 1p., f.	521
"The Angel" Inn, and 1a. 2r. 27p., f.	1,500
Tharston, Norfolk.—House and enclosure, 10a. 1r. 16p., f.	395
Wacton, &c., Norfolk.—Enclosures of land, 15a. 1r. 6p., f.	260
Pulham Market, Norfolk.—Blacksmith's Shop and 6a. 2r. 13p., f.	350
Gissing, Norfolk.—House and Enclosures, 7a. 2r. 32p., f.	310
Deopham, Norfolk.—A farm containing 27a. 1r. 9p., f. and c.	980
Enclosures of land, 20a. 1r. 19p., f. and c.	450

By FENN & Co. (at Colchester).

Great Oakley, Essex.—"The Wash Farm," 72a. 1r. 34p., f. and c.	770

By N. W. ROBINSON (at Boxmoor).

Boxmoor, Herts.—1 to 5, Rough Down, f.	1,600
"Wilton Lodge," and plot of land, f., 2a. 1r. 3p., r. 57*l.*	1,170

July 13.—By J. W. KEMSLEY.

Little Hallingbury, Essex.—"Little Hallingbury Mill" and Homestead, at Gaston Green, 25a. 2r. 11p., f.	1,000
"Little Bursteads Farm," 46a. 0r. 11p., f.	765
Chigwell Row, Essex.—"Woodlands Cottage," and 9 acres, f.	900

By ORTZMANN & Co.

Fitzroy-sq.—9, Bennett-st., c., r. 50*l.*	1,290

By RAMSEY & Co.

Peckham.—8, St. Mary's-rd., f., e.r. 60*l.*	770

By PROTHEROE & MORRIS.

Bromley-by-Bow.—17, 19, 21, and 23, Nairn-st., u.t. 77 yrs., g.r. 17*l.*	780
Poplar.—40 and 42, Blair-st., u.t. 51 yrs., g.r. 9*l.*	455
Mile End.—24, Huddart-st., u.t. 78 yrs., g.r. 5*l.*	290
Ilford, Essex.—15, Bedford Gardens, f., r. 28*l.*	410

By A. RICHARDS.

Tottenham.—876, 878, and 882, High-rd., and "The Nag's Head" Beer House, c., r. 72*l.* 10s.	1,485
Bloomsbury.—6 and 37, Woburn-sq., u.t. 32 yrs., g.r. 56*l.*	1,790

By KING & CHASEMORE.

Rudgwick, Sussex.—"The Lynwick Estate," 156a. 3r. 1p., f.	5,400

By HAMPTON & SONS.

Southampton.—Shirley Warren, "Tremona," and and 13 acres, f.	4,750
Great Bookham, &c., Surrey.—Enclosures of land 18a. 1r. 16p., f.	1,670
"Sole Farm," "Gaston's," and 3 cottages, comprising 79a. 0r. 29p., f.	2,700
"Fairfield House," and 1a. 1r. 25p., f., r. 80*l.*	1,950
Enclosures of land, 6a. 2r. 10p., f.	370
Two houses and shops, and 0a. 2r. 30p., f.	1,680
Sixteen freehold cottages	1,870
Eight building plots, f.	320

By T. CARTER & Co. (at Blackpool).

Blackpool, Lancaster.—"The Royal Palace Garden" and Hotel, area 153,039 yds., f.	78,100
Raikes Parade, plot of land, area 3,077 yds., f.	1,920

By A. BURTENSHAW (at Eastbourne).

Eastdean, Sussex.—Three cottages and enclosure, 1a. 2r. 31p., f.	485

By W. F. FOX (at Wyke).

Wyke, Yorks.—"Lower Fold Farm," 23a. 1r. 19p., f.	1,650

By WALTER LUDLOW & BRISCOE (at Birmingham).

King's Norton, Worcester.—Middleton Hall-rd, f.g.r. 23*l.* 15s., reversion in 86 yrs.	675
Middleton Hall-rd., 2 building sites, area 9,120 yds., f.	751
Edgbaston, Warwick.—Richmond Hill, "Clydesdale," u.t. 75 yrs., g.r. 16*l.* 14s.	1,350

By S. P. GRAVES (at Southam).

Harbury, Warwick.—Two enclosures of land, 6a. 0r. 5p., f.	350

July 14.—By E. ROBINS & HINE.

Holborn.—38, High Holborn, area 900 ft. f., r. 170*l.*	5,000

By JOSHUA BAKER & SON.

Kilburn.—62 and 64, Maygrove-rd., f., r. 71*l.*	890

By E. E. CROUCHER & Co.

Soberton, Hants.—House and enclosures, 5a. 0r. 6p., f.	460

By HERRING, SON, & DAW.

Caledonian-rd.—No. 275, u.t. 48 yrs., g.r. 6*l.*, e.r. 80*l.*, together with goodwill	750

By P. & G. GEEN.

Brixton.—14, Kellett-rd., u.t. 77 yrs., g.r. 7*l.*, e.r. 42*l.*	360

COMPETITION AND CONTRACTS.

COMPETITION.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered.
*Pavilion	Torquay Corporation	30, 20, and 10 guineas respectively	Sept. 5

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
Public Health, Heacham, Norfolk	.....	F. Suter, Secretary, School-house, Heacham	Aug. 4
*Levelling, Paving, Kerbing, &c.	Southend-on-Sea Corp.	H. Harlock, Clarence-rd. Southend	do.
Sewers, Broomhill-road	Aberdeen T.C.	W. Dyack, Burgh Surv. Town House	do.
Distillery, Auchinblae, N.B.	.....	C. C. Doig, Archt. Elgin	Aug. 5
Church Tower, &c. St. Alban's, Blackburn	.....	B. Curran, C.E. Warrington	do.
Parish Hall, Coedpoeth, Wales	Bersham Parish Coun.	J. E. Lash, Archt. 5, Temple-row, Wrexham	do.
Residence, Cwmpare, Wales	Trustees, Welsh Baptist Chapel	W. D. Morgan, Archt 36, Queen-street, Ton Pentre, Glam. R.S.O.	do.
Street Works, Fonthill-road	Hove Commrs.	Town Surveyor	do.
Sewer	Brighouse Corp.	A. M. Fowler, C.E. 1, St. Peter's-sq. Manchester	do.
*Workshop at Workhouse	Kensington Guardians	Offices, Marloes-road, Kensington, W.	Aug 6
Residence, Stable, &c. Bosuney, Tintagel	.....	Wise & Wise, Archt. Launceston	do.
School, Alandale, Wadebridge, Cornwall	.....	L. Liddell, Alandale	Aug. 7
School, New Hirst, Ashington	.....	T. Tulip, Whinneyhill, Choppington	do.
Engine House, &c. Mill Chimney, Bower's Mills, Barkisland, Yorks.	.....	Horsfall & Son, Archts, Lord-street Chambers, Halifax	Aug. 8
School, &c. Crawcrook	.....	Rev. J. Tweddle, 2, Garden-terrace, Blaydon	do.
Three Cottages, Woolston Green, Buckfastleigh, Devon	J. R. Hunt	C. G. S. Alcock, Bridgetown, Totnes	do.
Additions to School, Holton-road, near Cardiff	Barry School Board	G. Thomas, Archt. Queen's-chambers, Cardiff	do.

CONTRACTS—*Continued.*

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
Pipe Laying, Barrow-in-Furness	Barrow Salt Co. Lim.	Secretary, 127, Ramsden-sq. Barrow-in-Furness	Aug 8
Kerbing and Asphalting Barnsley-road	Sandal Magna (Yorks) U.D.C.	A. Fawcett, C.E. Old Town Hall, Wakefield	do.
Whinstone Paving, &c. Togston	Alnwick R.D.C.	H. W. Walton, Alnwick	Aug. 10
Public Offices, Orchard-street	Neath R.D.C.	D. Davies, Archt. 28, Water-street, Neath	do.
Business Premises, &c. Lord Napier-street, Ordsal, Pendleton	Co-op. Indus. Soc. Lim.	Secretary, Broughton-road, Pendleton	do.
*Road Materials	Maidstone U.D.C.	Boro' Surveyor	do.
*Tar Paving Playgrounds	Hastings (U.D.)Sch. Bd.	Ealworthy & Son, St. Leonards	do.
Store and House, Coventry-street, Wakefield-road	Bradford Prov. Indus. Soc.	Rycroft & Firth, Archt Band-buildings, Bradford	do.
*Road Making and Paving	Willesden D.C.	C. C. Robson, Dyne-road, Kilburn, N.W.	Aug. 11
School, Ammanford	Llandebie (U.D.) Sch. Bd.	D. Jenkins, Architect, Llandilo	do.
*Manufacturing Works, Broadheath, near Manchester	Linotype Co. Ltd.	188, Fleet-street, E.C.	Aug. 12
*Extension of Main Sewers	Melton Mowbray U.D.C.	E. Jeeves, Nottingham-st. Melton Mowbray	do.
*Taking Down and Re-building Boxted Bridge	Essex and W. Suffolk C.C.	F. Whitmore, 17, Duke-st. Chelmsford	Aug. 13
*Repairs and Painting Workhouse	Stepney Union	G. E. Holman, 109, Bow-road, E.	do.
*New Infirmary	Halifax Union	Horsfall & Williams, George-st. Halifax	do.
Villa, Ovenden, Yorks	.....	Jackson & Fox, Archt. 21, George-street, Halifax	do.
Church, Alslaby, near Whitby	.....	E. H. Smales, Archt. 5, Flowergate, Whitby	do.
Outfall Works	Campbelltown (N.B.) Corp.	Warren & Stuart, 115, Wellington-st. Glasgow	Aug. 15
*Cast-iron Water Mains	Bilston U.D.C.	Baldwin Latham, 13, Victoria-street, S.W.	do.
*Six Shops, Church-road, Barnes	.....	F. & W. Stocker, 90 & 91, Queen-street, E.C.	Aug. 17
Granite Road Metal	Stevenage U.D.C.	Clerk, Council Offices, Stevenage	do.
Chapel, Brynteg, near Loughor	.....	T. Arnold, C.E. Castle-buildings, Llanelly	Aug. 18
*Police Station, Watford	Hertford Standing Joint Committee	U. A. Smith, 41, Parliament-street, S.W.	Aug. 19
*Enlargement, Electric Light Station	Islington Vestry	A. H. Tiltman, 6, John-street, Bedford-row, W.C.	Aug. 21
*Public Hall and Parochial Offices	Farnborough U.D.C.	G. Sherrin, 33, Finsbury-circus, E.C.	Aug. 24
*Infirmary and Workhouse	Ipswich Union	The Clerk, Upper Brook-street, Ipswich	Sept. 1

Those marked with an asterisk (*) are advertised in this Number. *Competition, p. iv. Contracts, pp. iv., vi., viii, & xix.*

Peckham.—32, 34, and 36, Bournemouth-rd., u.t. 68 yrs., g.r. 15*l.* £540
Paddington.—16, Blomfield-st., u.t. 46 yrs., g.r. 7*l.* 7s., r. 60*l.* 400

By H. C. HICKS.

Teddington.—Queen's-rd., eight plots of land, f. 975
South Lambeth.—316, South Lambeth-rd., u.t. 44 yrs., g.r. nil 455

By ROGERS, CHAPMAN, & THOMAS.

Pimlico.—19, Buckingham Palace-rd., u.t. 15 yrs., g.r. 60*l.*, r. 30*l.* 2,200
New Barnet, Herts.—Station-rd., "Woodlands," f., r. 40*l.* 560

By DEBENHAM, TEWSON, & CO.

Pimlico.—Sutherland-st., f.g.r. 58., reversion in 41 yrs. 640
Sutherland-st., six peppercorn g.r., reversion in 41 yrs. 780
Lupus-st., two peppercorn g.r., reversion in 41 yrs. 205
Pimlico.—Cumberland-st., f.g.r. 8s., reversion in 41 yrs. 1,005
Sussex-st., f.g.r. 2s., reversion in 41 yrs. 265
Cambridge-st., f.g.r. 2s., reversion in 31 yrs. 265
Hugh-st., f.g.r. 4s., reversion in 31 yrs. 540
Cumberland-st., f.g.r. 9s., reversion in 41 yrs. ... 1,010
Codicote, Herts.—"Hollands Farm," and 392 a. 2 r. 2 p., f. and c. 13,100
Enclosures of land and a house, 24 a. 1 r. 12 p. 1,000

By HEPPER & SONS (at Leeds).

Leeds.—North-st., "The Baptist Chapel Estate," area 386 yds., f. 2,575

By J. C. PLATT (at Hammersmith).

Fulham.—10, Moore Park-rd., u.t. 60 yrs., g.r. 3*l.* 15s. 290

By Messrs. SPELMAN (at King's Lynn).

Narborough, Norfolk.—"Narborough House," and 33 a. 0 r. 24 p., f. 1,540
Three cottages and enclosures, 36 a. 1 r. 24 p., f. 845

By HAWKES, RISDONS, & ANDREW (at Taunton).

Stogumber, Somerset.—The Stogumber Manor Estate (part of), comprising 742 a. 3 r. 23 p., f. (in lots) 17,182

By Messrs. COBB (at Rochester).

Cobham, Kent.—Enclosures of land, 102 a. 2 r. 18 p., f. 3,430
Sole-st., enclosure of land, and four cottages, 27 a. 2 r. 3 p., f. 1,200
Strood, Kent.—Enclosures of building land, 9 a. 3 r. 22 p., f. 4,600
Four building plots, f. 735

By J. & G. KILLINGWORTH & SON (at Spalding).

Weston, Lincs.—Enclosures of land, 37 a. 1 r. 4 p., f. 1,220
Enclosures of land, 6 a. 0 r. 29 p., c. 400
Moulton, Lincs.—"Ash Grove Farm House," and 18 a. 0 r. 7 p., f. and c. 700
Enclosures of land, 35 a. 1 r. 15 p., f. and c. 1,060

July 15.—By W. HALLETT & CO.

Kensington.—13, Peel-pl., f., r. 65*l.* 1,200

By C. RAWLEY CROSS.

Shepherd's Bush.—130 and 132, Askew-rd., f., r. 60*l.* 1,000
142, Askew-rd., and a plot of land, f., r. 40*l.* 1,235
Aschurch-grove, f.g.r. 21*l.* 10s., reversion 93½ yrs. 630
Aschurch-grove, a plot of land, f. 605
Notting Hill.—41 and 41A, Portland-rd., u.t. 65 and 31 yrs., g.r. 7*l.* r. 65*l.* 520

By J. ALFRED EGGAR.

Long Sutton, Hants.—Four enclosures of land, 64 a. 0 r. 38 p., f. 380
An enclosure of land, 8 a. 0 r. 31 p., f. 100

By DANIEL SMITH, SON, & OAKLEY.

Whitechapel.—81, Whitechapel-rd., f., r. 85*l.* £1,600
Lee.—Belgrave-ter., f.g.r. 95*l.* 6s., reversion in 61 yrs. 2,660
High-rd., f.g.r. 56*l.*, reversion in 60½ and 63½ yrs. 1,690

By H. DONALDSON & SON.

Soho.—33, Dean-st., f., r. 85*l.* 1,370
Dulwich.—5, Claude Villas, u.t. 79 yrs., g.r. 5*l.* 5s., r. 32*l.* 855

By ELLIS MORRIS & CO.

Lewisham.—77 to 85 (odd), Gilmore-rd., u.t. 59 yrs., g.r. 10*l.* 1,060
Fulham.—16 and 18, Protheroe-rd., u.t. 81 yrs., g.r. 10*l.* 10s. 330
Pimlico.—128, Lillington-st., u.t. 30 yrs., g.r. 6*l.* 13s. 6d., r. 32*l.* 255

By FOSTER & CRANFIELD.

Smithfield.—St. John-st., f.g.r. 300*l.*, reversion in 97 yrs. 9,500
Stepney.—119, Sidney-st., and l.g.r. 125*l.* 10s., u.t. 5 yrs., g.r. 6d. 690
Caledonian-rd.—No. 171, u.t. 44 yrs., g.r. 25*l.*, r. 75*l.* 530

By HOBSON, RICHARDS, & SON.

Camberwell.—14, Blake's-rd., u.t. 61 yrs., g.r. 5*l.*; 1, Hornby-rd., u.t. 61 yrs., g.r. 5*l.* 155

By W. HOUGHTON.

Forest Gate.—17, Knox-rd., f. 450
Walthamstow.—47, 49, and 51, Markhouse-pl., f., r. 35*l.* 2s. 280
1 to 39 (odd), Gladstone-rd., u.t. 87 yrs., g.r. 80*l.* 1,585

By D. J. CHATTELL.

Oxford-st.—71, Castle-st., u.t. 3 yrs., g.r. 50*l.*, r. 80*l.* 145
Kensington.—27 and 28, Archel-rd., u.t. 81 yrs., g.r. 8*l.*, r. 60*l.* 585
Wimbledon.—48 to 56 (even), Durham-rd., u.t. 80 yrs., g.r. 28*l.*, r. 142*l.* 880

By DOWSETT, KNIGHT, & CO. (at Farnborough).

Farnborough, Hants.—"Sign House Farm," 121 a. 3 r. 3 p., f. 6,000
Enclosures of land, 46 a. 0 r. 33 p., f. 2,450
Cove, Hants.—Enclosures of land, 252 a. 3 r. 15 p., f. 6,150
"Broomhill Farm," 67 a. 0 r. 34 p., f. 1,600
"Manor House," and 9 a. 3 r. 16 p., f. 1,050
The Manor of Cove, with all manorial rights ... 360

By HUMBERT, SON, & FLINT (at Chichester).

Chichester, Sussex. — 37 to 41, South-st., f., r. 179*l.* 10s. 2,605
17, North-st., u.t. 28 yrs., g.r. 8s., r. 28*l.* 310

By BAXTER, PAYNE, & LEPPER (at Orpington).

Orpington, Kent.—High-st., "Glenthorn," f., r. 40*l.* 520
High-st., five freehold cottages, r. 71*l.* 10s. 630
High-st., four building plots, f. 455

By W. F. FOX (at Dewsbury).

Dewsbury, Yorks.—Birkdale-rd., two houses and building plot, f. 500
Northgate, five freehold shops, r. 374*l.* 6,750
Northgate, a building plot, area 246 yds., f. 2,460
New Bridge-st., a building plot, 132 yds., f. 811
Cemetery-rd., &c., eight houses and two plots, f., r. 58*l.* 1,225

By DILLEY & SON (at March).

Wimblington, Cambs.—"The Stitches Farm," 329 a. 3 r. 26 p., f. ... 4,860

By Messrs. SPELMAN (at Great Yarmouth).

Hickling, Norfolk.—A freehold cottage, and 4 a. 2 r. 8 p. 190
Metfield, Suffolk.—A freehold house and shop ... 220
Pulham St. Mary, Norfolk.—A freehold farm, containing 87 a. 0 r. 26 p. 700
Dickleburgh, Norfolk.—A farm, containing 51 a. 1 r. 24 p., f. and c. £500
Weybread, Suffolk.—Freehold residence and cottage 185

By H. DUKE & SON (at Dorchester).

Portesham, Dorset.—Enclosures of land, 55 a. 1 r. 12 p., f. 3,965
Eight freehold cottages 670
"Portesham House," and 14 a. 2 r. 21 p., f. 1,750
"Clover Farm," 78 a. 1 r. 10 p., f. 2,200
"Portesham Dairy Farm," 112 a. 1 r. 39 p., f. ... 2,700

July 16.—By RENDELL & SYMONS (at Newton Abbot).

Liverton, Devon.—Enclosures of land, 16 a. 1 r. 6 p., f. 200

By NEASOM & WHITE (at Birmingham).

Forshaw Heath, Warwick.—"Lyndon's Farm," 65 a. 2 r. 33 p., f. 1,780
Earlswood, Warwick.—Enclosures of land, 3 a. 2 r., f. 160

By G. E. SWORDER & SONS (at Bishops Stortford).

Rickling, Essex.—"Church End Farm," 300 a. 3 r. 17 p., f. and c. 2,000

By J. R. EVE & SONS (at Sandy).

Beeston, Beds.—A freehold residence, and 14 a. 1 r. 32 p. 1,650
House, cottages, and enclosures, 88 a. 1 r. 33 p., f. 6,760

By FULLER, HORSEY, SONS, & CO.

St. George's East.—Christian-st., a plot of land, area 7,470 ft., f. 3,000
Grove-st., f.g.r. 8*l.* and 4*l.*, reversions in 24 years and 1 year respectively 1,010
Christian-st., 4, Railway Arches, u.t. 900 yrs., g.r. nil 2,400
Christian-st., plot of building land, area 30,700 ft., with buildings thereon, f. 12,500
98 to 111, Grove-st., f., r. 247*l.* 8s. 2,485
Grove-st., plot of building land, area 6,063 ft., with buildings thereon, f. 2,170
Christian-st., a plot of land, area 9,750 ft., f. 4,500

By NEWBON & CO.

Tottenham Court-rd.—21, Pitt-st., f., r. 45*l.* 580
Kensal-rise.—23, 25, and 27, Kilburn-lane, u.t. 89 yrs., g.r. 30*l.*, r. 190*l.* 1,895
1 and 2, Elmwood-villas, u.t. 89 yrs., g.r. 11*l.*, r. 75*l.* 12s. 645
Bayswater.—5 and 7, Ledbury-rd., u.t. 47 yrs., g.r. 15*l.*, r. 120*l.* 1,060
Notting Hill.—84 to 94 (even), Portland-rd., u.t. 45 yrs., g.r. 60*l.*, r. 251*l.* 18s. 1,000
Holloway.—6, 8, 22, 26, and 28, Langdon-rd., u.t. 70 yrs., g.r. 40*l.*, r. 162*l.* 1,065
Finsbury Pk.—19, Woodstock-rd., u.t. 71 yrs., g.r. 6*l.* 10s., r. 40*l.* 295

By STIMSON & SONS.

South Lambeth.—38 and 39, Rutland-st., u.t. 59 yrs., g.r. 9*l.* 470
Stamford Hill.—7, West-bank, u.t. 87½ yrs., g.r. 8*l.*, r. 45*l.* 450
Old Ford.—19 and 21, Milton-rd., u.t. 67½ yrs., g.r. 6*l.* 6s. 330
Stratford.—17, 19, 21, 27, 29, 31, and 33, Buxton-rd., f., r. 189*l.* 16s. 2,260
Harrow.—Peel-rd., a plot of building land, f. 50

By H. J. BROMLEY.

Sydenham.—28 and 30, Venner-rd., f., r. 72*l.* 935

[Contractions used in these Lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent, r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard, &c.

PRICES CURRENT OF MATERIALS.

TIMBER.		
Greenheart, B.G.	ton	£ s. d.
Teak, E.I.	load	11/0/0 16/0/0
Sequoia, U.S.ft.cu		0/ 0/ 1/
Ash, Canada	load	2/15/0 4/0/0
Birch, do.		3/5/0 5/0/0
Elm, do.		3/10/0 4/15/0
Fir, Dantzic, &c.		2/15/0 3/10/0
Oak, do.		2/10/0 3/10/0
Canada		5/10/0 7/0/0
Pine, Canada red		0/0/0 0/0/0
Do. Yellow		2/5/0 4/10/0
Lath, Dantzic, fath		4/10/0 5/10/0
St. Petersburg		5/0/0 6/10/0
Wainscot, Riga &c., log		2/10/0 4/15/0
Odessa, crown		2/10/0 4/15/0
Deals, Finland 2nd & 1st std	100	7/10/0 9/0/0
Do. 4th & 3rd		7/10/0 8/10/0
Do. Riga		7/10/0 8/10/0
St. Petersburg, 1st yellow		10/10/0 13/0/0
Do. 2nd yellow		8/10/0 10/10/0
Do. white		9/0/0 10/10/0
Swedish		7/10/0 16/0/0
White Sea		8/10/0 15/10/0
Canada, Pine 1st		23/0/0 27/10/0
Do. do. 2nd		16/0/0 17/0/0
Do. do. 3rd, &c.		8/10/0 10/15/0
Do. Spruce, 1st		9/0/0 11/10/0
Do. do. 3rd and 2nd		7/10/0 8/10/0
New Brunswick		7/0/0 8/0/0
Battens, all kinds		5/0/0 10/0/0
Flooring boards, 1¼, 1 in. prep. 1st		0/9/6 0/14/6
Do. 2nd		0/6/0 0/11/6
Other qualities		0/5/0 0/6/6
Cedar, Cuba, &c. ft.		/4½ /5
Honduras, &c.		/4 /5
Mahogany, Cuba		/4½ /6
St. Domingo cargo av.		/4½ 1/3
Mexican, do. do.		/4 /5
Tobasco, do. do.		/5 /7
Honduras, do.		/5 /5½
Box, Turkey	ton	4/0/0 15/0/0
Rose, Rio		7/0/0 16/0/0
Bahia		6/0/0 15/0/0
Satin, St. Domingo		0/0/7 0/1/0

TIMBER (continued).		
Satin, Porto Rico		0/0/7 0/1/6
Walnut, Italian		0/0/3 0/0/7
METALS.		
Iron—Pig, in Scotland	ton	2/6/1 0/0/0
Bar, Welsh, in London		5/12/6 5/15/0
Do. do. at works in Wales		5/2/6 5/5/0
Do. Staffordshire, in London		6/0/0 6/10/0
COPPER—British cake and ingot		53/5/0 53/12/0
Best selected		53/5/0 53/10/0
Sheets, strong		57/0/0 58/0/0
Chili bars		48/8/9 49/17/6
YELLOW METAL	lb	0/0/5 0/0/5½
LEAD—Pig, Spanish	ton	10/18/9 11/0/0
English com. brands		11/1/3 11/3/0
Sheet, English 6 lbs. per sq. ft. and upwards		12/2/6 12/5/0
Pipe		12/12/0 0/0/0
ZINC—English sheet	ton	20/10/0 0/0/0
'Vieille Montagne		21/6/0 0/0/0
Spelter		17/10/0 17/15/0
TIN—Straits		60/15/0 0/0/0
Australian		61/2/6 0/0/0
English Ingots		63/15/0 64/12/0
Banca		61/10/0 62/0/0
Billiton		60/15/0 61/0/0
OILS.		
Linseed	ton	16/5/0 16/7/6
Cocoanut, Cochin		26/10/0 0/0/0
Do. Ceylon		22/15/0 0/0/0
Palm, Lagos		20/15/0 0/0/0
Rapeseed, English pale		24/5/0 24/10/0
Do. brown		22/15/0 23/5/0
Cottonseed ref.		16/0/0 16/10/0
Oleine		17/0/0 18/10/0
Lubricating U.S.		0/6/0 0/7/3
Do. black		0/4/9 0/5/6
TAR—Stockholm	barrel	1/8 1/0/0
Archangel		0/12/6 0/0/0
TURPENTINE—(American)	ton	12/12/6 12/15/0

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays*. N.B.—We cannot publish Tenders unless authenticated by the name and address of the sender: and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under £100, unless in some exceptional cases and for special reasons.]

ASHFORD.—For additions and alterations at "Bucksford," near Ashford, Kent, for Colonel J. I. Toke. Mr. George Judge, architect. Quantities by Mr. R. C. Glaed:—

J. Orway	£4,132	G. E. Wallis & Sons	£3,487
R. A. Low	3,739	J. Wood & Sons	3,304
H. B. Wilson	3,647	Henry Knock	3,343

BRISTOL.—For erecting dwelling-houses and shop in West-street. Messrs. W. B. Gingell and F. Bligh Bond, architects. Quantities by Mr. W. Barratt:—

T. Bastow	£2,150	G. Humphreys	£1,786
T. H. Brown	2,045	Eastabook & Sons	1,709
E. Walters	1,975	E. Clark	1,705
H. W. Forse	1,960	J. Perrott	1,753
T. E. Davis	1,866	Hughes & Weeks	1,749
W. Cowlin & Son	1,886	T. Perkins	1,799
Wilkins & Gosling	1,825	C. A. Hayes	1,797
W. Church	1,799	J. James*	1,659
E. Love	1,797	G. Downs	1,655
Enos Gay	1,794	*Accepted.	

COSHAM.—For the erection of three cottages, Havant-road, for the Trustees of the late Miss Curtiss. Mr. Norman H. Atkins, architect, Town Hall, Fareham:—

J. Croad & Son	£925 0 0	I. Plummer	£610 0 0
J. Staples	630 0 0	Carter Bros., Cosham*	597 13 8
		*Accepted.	

CATFORD.—For erecting the Catford Hill Baptist Church, S.E. Mr. George Baines, architect, 5, Clement's-inn, Strand, W.C.:—

F. & H. F. Higgs	£3,900 0 0	Battley, Sons, & Holness	£3,379 0 0
Halliday & Greenwood	3771 0 0	J. Willmott & Sons	3,337 19 3
Robert A. Lowe	3,591 0 0	Thomas Isaac Barden, 8, Union-Street, Maidstone*	3,248 0 0
H. L. Holloway	3,489 0 0		
Jerrard & Sons	3,459 0 0		
Samuel J. Scott	3,379 0 0	*Accepted.	

CHELMSFORD.—For the erection of a pair of semi-detached cottages, Primrose Hill, for Mr. W. Cottis. Mr. F. Whitmore, architect, Chelmsford:—

J. L. Near	£624 0 0	W. Samms	£611 0 0
H. Potter	620 0 0	Beckett Bros.	609 17 6
H. Kennell	619 0 0		

CARDIFF.—For the erection of hotel premises, Moorland-road, Cardiff, for Messrs. Wm. Hancock & Co., Limited. Mr. Edwin Seward, architect, Queen's-chambers, Cardiff:—

Cadwallader & Hockridge	£4,848 0 0	W. Thomas & Co.	£4,385 0 0
Cox & Barde	4,615 0 0	Jas. Allan	4,327 0 0
Geo. Haywood	4,570 0 0	W. Lissaman, jun.	4,320 0 0
A. J. Howell & Co.	4,561 12 10	E. Turner & Sons	4,186 0 0
W. Symonds & Co.	4,488 0 0	Lattey & Co.	4,142 0 0
S. Shepton & Sons	4,435 10 0	E. R. Evans & Bros., Cathays, Cardiff*	4,112 8 10
		*Accepted.	

EXETER.—For alterations, &c., to "Black Dog" inn, Lower North-street, for Mr. E. Glade. Mr. Chas. Cole, architect, 52, High-street, Exeter:—

B. Heath & Son	£387	S. Castle	£355
Mingo & Boone	372	J. F. Vicary, Bartholomew-street, Exeter	342
Tree & Bolley	363	*Accepted.	
Hams & Passmore	355		

FAREHAM.—For erecting four cottages, Wallington, for Mrs. Bishop. Mr. Norman H. Atkins, architect:—

E. Tutte	£613	C. Wareham	£560
F. G. Shepheard	569	J. Plummer (accepted)	550

FAREHAM.—For the erection of a villa residence, Titchfield Common, for Mrs. Foster. Mr. Norman H. Atkins, architect:—

F. G. Shepheard	£667	C. J. Newbury (accepted)	£586
C. Wareham	639	G. H. Hackett	525

GUARDBRIDGE (N.B.).—For the construction of reservoir, and laying 3½ miles c.i. pipes. Mr. Henry Bruce, C.E., County Buildings, Cupar, Fife:—

Alex. Stewart	£1,693 6 8½	James Stevens	£1,611 6 2½
Geo. Mackay & Son, Broughty Ferry, and Stirling*	1,655 3 2	David Houston	1,607 9 6
		*Accepted.	

[Thirteen contractors tendered at first, but a new proposal was entertained, and the four lowest offers were asked to offer again.]

GOSPORT.—For alterations and additions to the Alverstoke National Schools. Mr. Harry A. F. Smith, architect. Quantities supplied:—

John Croad	£368 0 0	Lear & Son	£358 0 0
Dash	366 0 0	Rapley (accepted)	315 5 9

LONDON.—For the erection and completion of proposed additions to St. Joseph's College, Balham, S.W. Mr. Leonard Stokes, architect. Quantities by Mr. John B. Lofting:—

Gough & Co.	£1,554	Stimpson & Co.	£1,485
King & Son	1,510	F. G. Minter	1,471
Loosley & Son	1,425	Johnson & Co.	1,449
Scott	1,493		

LONDON.—For rebuilding the "Catherine Wheel" public-house, Great Windmill-street, W., for Messrs. Grimes & Co. Mr. W. M. Brutton, architect. Quantities by Mr. William Hawker:—

		Credit old materials.
Godson & Sons	£5,469	£
Whitehead & Co.	5,450	100
Stimpson & Co.	5,428	78
Dearing & Son	5,402	20
Wm. Smith	5,359	20
H. L. Holloway	5,274	35
Edwards & Madway	5,263	31
Courtney & Fairbairn	5,193	41
Hooper	4,880	40

LONDON.—For the docking, &c., of the sludge-ship *Bazalgette*, for the London County Council:—

Thames Ironworks and Shipbuilding Company, Limited	£405 0	Mills & Knight	£237 7
J. Stewart & Son, Lim.	323 5	Brown's Dry Dock and Engineering Company, Limited	225 0
H. Fletcher, Son, and Fearnall	237 10	Robinson & Dodd	189 16

LISBURN (Ireland).—Accepted for the execution of water-supply works, Saintfield, co. Down, for the Union Guardians. Mr. Walter Gregory, C.E., Saintfield:—

William Lowry, Saintfield, co. Down £147 5

PORTSMOUTH.—For the enlargement of asylum, Milton, for the Committee of Visitors of the Portsmouth Lunatic Asylum. Messrs. Rake & Cogswell, architects, Prudential-buildings, Portsmouth. Quantities by the architects:—

W. Ward	£11,584	E. & A. Sprigings	£9,900
Beaton	10,857	H. Jones	9,830
W. Evans	10,331	J. Crockerell	9,500
Light & Son	10,293	T. P. Hall	9,480
W. Learmouth	10,052	T. Quick, Southsea*	9,468
		*Accepted.	

PONTYPRIDD.—For the erection of schools, Coedpenmaen. Mr. Arthur O. Evans, architect, Post Office-chambers, Pontypridd:—

J. C. Richards	£807 0 0	J. A. James	£626 14 6
Wm. Seaton	858 16 8	M. Julian	594 0 0
D. C. Jones & Co.	759 0 0	T. Jones	562 0 0
J. Williams	714 3 0	D. P. Lewis	549 0 0
M. Williams	698 0 0	J. Snelling, Pontypridd (accepted)	529 0 0
Williams & James	644 0 0		

PAIGNTON.—For the erection of six houses at Winner-street, for Mr. H. G. Deller. Mr. W. G. Couldrey, architect, Paignton. Quantities by Mr. Vincent Cattermole Brown, Paignton:—

E. Westlake	£1,960	H. P. Rabbich	£1,773
G. Webber & Maunder	1,776	H. Webber & Sons	1,750
Timewell & Son	1,776	C. & R. E. Drew*	1,700
		*Accepted.	

SWANSEA.—For erecting St. Thomas School for the Swansea School Board. Mr. G. E. T. Laurence, architect, Queen Victoria-street, E.C.

	Graig Brick.	Ruabon Brick.	Ebbw Vale.	Dowlais.	Glanbrook.	Retaining Walls.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
D. C. Jones & Co.	12475 0 0	13130 0 0	12926 0 0	—	11289 0 0	1292 0 0
J. & D. Jones	11400 0 0	11650 0 0	11875 0 0	11500 0 0	11070 0 0	1370 0 0
Gustavus, Bros.	10960 19 10	11400 19 10	11450 19 10	—	10980 19 10	985 0 1
O. W. Rosser	10536 10 0	10796 18 0	10736 10 0	—	10476 5 0	984 0 0
Bennett Bros.	10406 11 2	10827 16 2	10679 0 8	—	10389 9 4	889 1 8
Thomas Watkins & Co.	9986 7 1	10310 3 7	10186 4 7	—	9788 7 7	841 4 7
D. Jenkin	9695 0 0	10335 0 0	10395 0 0	10395 0 0	9695 0 0	1076 0 0
J. & T. Weaver	9963 0 0	10043 0 0	9905 17 0	9883 0 0	*9571 0 0	*835 0 0
Lloyd Bros.	10408 15 0	10743 0 0	10638 0 0	—	10252 15 0	1119 0 0

* Accepted subject to approval of Education Department.

LONDON.—For works proposed to be carried out at the residence, No. 1, Warwick-square, South Belgravia, S.W., for Mr. A. G. Blount. Messrs. Rogers, Chapman & Thomas, surveyors:—

	Estimate 1.	Estimate 2.	Estimate 3.	Estimate 4a.	Estimate 4b.	Estimate 5.	Total.
	£	£ s.	£	£	£ s.	£	£ s.
Aldin Bros. & Davies	774	70 0	62	190	134 0	42	1,280 0
Sykes & Son	615	82 0	75	120	93 0	58	905 0
Styles & Son	502	49 16	53	153	94 17	43	685 13
Simpson & Co.	530	46 0	57	115	88 0	27	843 0
E. D. Hook	530	36 0	41	125	85 0	35	821 0
Laing & Son	475	48 0	42	134	70 0	28	815 0

PUDSEY (Yorks).—For the erection of shed, &c., Cliffe Mills, for Messrs. Wm. Lupton & Co., Limited. Messrs. J. Kendal & J. H. Bakes, architects, Calverley-chambers, Victoria-square, Leeds. Quantities by the architects:—

Masonry.—Dawson & Lamb, Pudsey	£584 0
Joinery.—Square Johnson, Pudsey	265 0
Ironwork.—Matthew Pitts & Co., Stanningley	460 0
Painting.—L. Sunderland, Bradford	22 15
Plastering and Concrete.—Oswald Lister, Ilkley	122 0
Slating.—Robert Hartley, Idle	72 0
Total	£1,301 15

RAVENSTHORPE.—Accepted for making, forming, and draining three new streets. Messrs. C. H. Marriott & Son, surveyors. West Park-street, Dewsbury:—

John Slinger & Son, Clockheaton £620

RAINHILL (Lancs.).—For additions, &c., to infirmary wards County Asylum, for the Lancashire Asylums Board. Messrs. Grayson & Ould, architects, 31, James-street, Liverpool:—

Wm. Molyneux	£1,395	J. Rothwell & Sons	£1,155
J. Patterson & Sons	1,282	G. Weybourne & Sons	1,115
Jas. Ellison	1,259	G. L. Dresser, Liverpool*	1,112
Whitaker & Woods	1,219	*Accepted.	

SOUTHAMPTON.—For the erection of four semi-detached cottages, Waterhouse-lane, Millbrook, for Dr. Galpin. Mr. Norman H. Atkins, architect, Town Hall, Fareham:—

C. Jerram	£959 6 6	T. J. Jukes*	£869 0 0
C. Barter	890 0 0	*Accepted.	

SHEFFIELD.—For additions and alterations to the Park Brewery, Sheffield, for Messrs. Hooson Bros. Messrs. Inskipp & Mackenzie, architects, No. 5, Bedford-row, London, W.C. Quantities by Messrs. R. L. Curtis & Sons, 119, London-wall, E.C.:—

Ash, Son, & Biggin	£1,720 0 0	Mastin & Son	£1,634 0 0
Geo. Webster	1,680 19 8	Fidler, Eckington*	1,624 0 0
John Morton	1,660 4 10	*Accepted.	

SOUTHAMPTON.—For the painting of Cobden Bridge, Bitterne Park Estate, Southampton, for the National Land Corporation, Limited. Messrs. Lemon & Blizard, surveyors:—

W. Saunders	£233 8 6	J. Nichol	£162 0 0
Jenkins & Sons	197 0 0	T. Goodman	144 18 5
Frank Livett & Sons	193 0 0	A. G. & J. Dowding	142 15 0
T. Rose	187 0 0	A. E. Alford	133 0 0
D. M. Sweet	172 12 0	W. H. Cole	117 0 0
(Unsigned)	162 12 6	C. A. Vaughan*	108 17 6
		*Accepted.	

For general repairs to Cobden Bridge, Bitterne Park Estate:—

F. Osman	£475	Jenkins & Sons*	£429
W. S. Batten	467	*Accepted.	

TEIGNMOUTH.—For the erection of business premises in Regent-street, for Mr. W. Larkworthy. Messrs. Norman G. Bridgman, & Walter H. Bridgman, architects, of Torquay, Paignton, and Teignmouth. Quantities by Mr. Vincent Cattermole Brown, of Paignton:—

Stephens & Son	£861	E. Andrews	£765
C. Francis	793	G. Lee	635
J. Hayman	775	Furler Bros, Teignmouth*	600
		*Accepted.	

WAKEFIELD.—For the construction of main pipe sewers (4,350 yds.), Beck Bottom and Kirkhamgate, for the Rural District Council. Mr. F. Massie, C.E., Council Offices, Wakefield:—

Joseph Pullan	£3,997 0 0	T. Young	£2,596 19 5
Parker & Sharp	3,081 6 11	C. Walker & Co.	2,592 15 10
Squire Booth	2,787 7 6	Wilks & Ross, Shipley*	2,378 0 9
Garforth Bros.	2,782 5 9	Sam. Taylor	2,372 4 6
John Bentley	2,741 13 0	Matt. Arundel†	2,247 10 6
Williamson & Co.	2,643 11 3	† Withdrawn.	
T. & G. Wilson	2,640 16 11		
*Accepted.			

LONDON SCHOOL BOARD TENDERS.

The following lists of tenders were brought up by the Works Committee at the last meeting of the London School Board:—

ALDENHAM-STREET.—Cutting out existing hot air apparatus and gas radiators, and providing and fixing complete low pressure hot-water apparatus and boilers:—

W. G. Cannon & Sons	£598 0	J. & F. May	£497 0
Matthews & Yates, Ltd.	525 0	Maguire & Son	434 10
J. Fraser & Son	519 0	G. Davis*	375 0

ARTHUR-STREET.—Providing and fixing hot-water coil:—

Strode & Co.	£47 0 0	Wenham & Waters, Limited	£30
A. J. Kallaway & Co.	33 7 0	J. Wontner-Smith, Gray, & Co.	22 12 6
Vaughan & Brown, Ltd.	31 0 0	Russell & Co.*	19 19 0

BARRETT-STREET.—Enlarging and refitting the boys' and infants offices, rebuilding offices for female infants, refitting girls' offices on roof playground, and new drainage scheme:—

F. G. Minter	£1,300	Lathey Bros.	£1,148
T. Cruwys	1,250	J. Christie	1,148
G. Foxley	1,190	G. Parker	1,115
Vernall, Danes, & Co.	1,188	W. V. Goad	1,095
Lilly & Lilley, Limited	1,187	E. Triggs	1,018
H. Knight & Son	1,166	R. A. Yerbury & Sons*	967
W. Gregar & Son	1,162		

BATH-STREET.—Providing and fixing steam pump and condense tank to the existing low-pressure steam apparatus:—

W. G. Cannon & Sons	£179 0	Wenham & Waters, Ltd.	£134 0
J. Wontner-Smith, Gray & Co.	159 10	J. & F. May	118 10
Z. D. Berry & Sons	147 10	J. C. & J. S. Ellis, Ltd.	106 10
Fraser & Fraser, Ltd.	145 0	J. F. Clarke & Sons*	78 10

BELVEDERE-PLACE.—Rebuilding boys', girls', and infants offices, and providing drainage:—

J. F. Collinson	£1,700	H. Knight & Son	£1,570
G. S. S. Williams & Son	1,677	E. Triggs	1,555
J. Grover & Son	1,650	W. V. Goad	1,522
W. Downs	1,623	Lathey Bros.	1,519
Vernall, Danes, & Co.	1,587	G. Munday & Sons*	1,483
J. T. Robey	1,577		

BOUNDARY-LANE.—Converting two old houses into a special school and schoolkeepers' house, and providing boys' and infants' offices, &c.:—

W. Downs	£1,485	W. V. Goad*	£1,295
J. Marsland	1,435		

BROMLEY HALL-ROAD.—Overhauling existing apparatus, and providing and fixing steam pump and condense cylinder:—

Tabor & Hinchcliffe	£200 0	J. & F. May	£118 0
W. G. Cannon & Sons	179 0	J. C. & J. S. Ellis, Ltd.	97 0
C. Seward & Co.	177 0	J. Wontner-Smith, Gray, & Co.*	87 16
J. Grundy	125 0		

COMPTON-STREET.—Ventilating cloak-rooms:—

T. Cruwys	£168	McCormick & Sons	£128
Johnson & Co.	147	Staines & Son	125
C. Dearing & Son	136	T. L. Grant*	123

CREDON-ROAD. — Laundry centre, and sundry works to site :—

W. Downs	£1,167 0 0	W. & H. Castle	£995 10 9
Holliday & Greenwood	995 0 0	W. Akers & Co.	863 0 0
J. F. Ford	932 15 5	J. Otway	853 0 0
G. Garrett & Son	909 0 0	W. V. Goad	846 0 0
		E. Triggs*	839 0 0

EAST-LANE.—Stepped flooring and warming :—

J. & M. Patrick	£307	J. Marsland	£268
W. Downs	333	H. Line*	249

GALLEYWALL-ROAD.—Repairing stoves :—

G. Miller	£26 10	Hendry & Pattison	£19 0
W. G. Cannon & Sons	22 0	Cosyn Ching & Co.	11 15
J. Defries & Sons	20 0	E. Coules & Son	11 0
J. Wontner-Smith, Gray, & Co.	12 5	J. F. Clarke & Sons (accepted)	10 0

GORDON HOUSE (Isleworth).—Converting building into a home for fifty girls :—

Lathey Bros	£7,587	S. N. Soole & Son	£6,643
J. W. Brooking	6,887	Speechley & Smith*	6,509
G. W. Heasler	6,807		

HAWLEY-CRESCENT SITE.—Repairs at Nos. 31, 33, 35, and 37, Kentish Town-road :—

G. Kemp	£75 0	F. Cottrell (accepted)	£47 10
Marchant & Hirst	49 0		

HEAD OFFICES.—Cleaning boilers, heaters, &c. :—

F. & R. Bone	£64 10	J. Eason (accepted)	£38 14
J. Fraser & Son	47 10		

KNEE-HILL.—Providing entrance lobby and cloak-rooms :—

W. Harbrow	£73 0	Croggon & Co., Limited*	£57 10
Humphreys' Limited	63 0		

MINA-ROAD.—Overhauling existing apparatus, and providing and fixing steam pump and condense cylinder :—

B. Harlow & Son	£195 0 0	J. Fraser & Son	£118 0 0
W. G. Cannon & Sons	159 0 0	J. Wontner-Smith, Gray, & Co.*	55 10 0
J. & F. May	127 0 9		

PLUMSTEAD-ROAD.—Extending and refitting boys', girls' and infants' offices, and new drainage scheme :—

Kirk & Randall	£2,480	J. Marsland	£1,851
J. & C. Bowyer	1,994	W. Akers & Co.	1,830
G. Parker	1,949	J. & M. Patrick*	1,719
A. Black & Son	1,890		

QUEEN'S-ROAD.—Providing and fixing complete low-pressure hot-water apparatus and Trentham boiler :—

F. Milan	£896 19	Duffield & Co.	£543 0
B. Harlow & Son	697 0	E. Oldroyd & Co., Ltd.	539 0
G. Davis	670 0	Strode & Co.	517 0
J. W. Brooks	652 0	J. Defries & Sons, Ltd.*	511 0
Russell & Co.	548 0		

REDDINS-ROAD.—Providing and fixing tubular boilers and coils :—

J. Defries & Sons, Limited	£130	Strode & Co.	£98
J. & F. May	86	Wenham & Waters, Limited	58
G. Davis	59	Bates & Pearce*	55

ROLLS-ROAD.—Enlargement :—

W. C. Tyrie	£11,716 15	Lathey Bros.	£8,181 0
J. Shillitoe & Son	8,705 0	Holloway Bros.	8,178 0
J. Marsland	8,435 0	W. Downs	8,173 0
Kirk & Randall	8,428 0	T. L. Green	8,135 0
Killby & Gayford	8,312 0	Perkins & Co.	8,123 0
J. F. Collinson	8,284 0	C. Cox	8,019 0
W. Pattinson & Sons	8,230 0	B. E. Nightingale	7,960 0
Dove Bros.	8,225 0	E. Lawrance & Sons	7,938 0
J. Grover & Son	8,218 0	Stimpson & Co.*	7,750 0
D. Chatteris	8,190 0		

ROMAN-ROAD.—Providing sliding glazed partition, and corridor :—

T. H. Jackson	£333	D. Gibb & Co.	£265
W. Martin	275	W. Hornett*	250

SURREY-LANE.—Providing and fixing Trentham boiler for the existing low-pressure hot water apparatus :—

J. & F. May	£285	G. Davis	£220
W. G. Cannon & Sons	273	Vaughan & Brown, Limited	197
J. Wontner Smith, Gray, & Co.	225	J. Fraser & Son*	164

TOTTENHAM-ROAD.—Enlargement of pupil teachers centre, erecting manual centre, providing laundry centre in arches of manual centre, providing covered playground for girls' and junior mixed departments, and enclosing, draining, and tar-paving additional land :—

Dove Bros.	£4,633	J. Grover & Son	£4,374
Killby & Gayford	4,575	G. S. S. Williams & Son	4,326
E. Lawrance & Sons	4,472	Treasure & Son	4,125
W. Shurmur	4,419	C. Cox*	4,097

UPPER HORNSEY-ROAD.—Providing and fixing complete low-pressure hot-water apparatus and Trentham boiler :—

Tabor & Hinchcliffe	£908 0	Vaughan & Brown, Ltd.	£563 0
Bailey & Clapham	782 10	E. Oldroyd & Co., Ltd.	539 0
J. C. and J. S. Ellis, Ltd.	637 10	A. Dougill & Co., Ltd.	502 8
J. C. Christie	574 15	J. Fraser & Son*	488 0
Wenham & Waters, Ltd.	564 0		

WILLIAM-STREET.—Providing and fixing sliding glazed partitions, &c. :—

J. Christie	£305	J. Garrett & Sons	£266
Lathey Bros.	299	T. Cruwys	229
W. Hammond	273	B. E. Nightingale*	216

WINSTANLEY-ROAD.—Rebuilding girls' and infants' offices, altering and refitting boys' offices and providing new drainage scheme :—

G. Neal	£1,935	R. A. Yerbury & Sons	£1,895
W. Hammond	1,930	E. Triggs	1,796
W. Downs	1,929	Holliday & Greenwood	1,770
Lathey Bros.	1,919	J. Garrett & Son*	1,747

YERBURY-ROAD.—Providing lavatories for teachers, &c. :—

J. Mitchell & Co.	£137 0	R. A. Yerbury & Sons	£93 0
H. Knight & Sons	118 0	Marchant & Hirst	79 10
Stevens Bros.	109 0	J. & H. Bangs*	66 0

Supply of 72 S.B. Stoves :—

J. Bartle & Co.	£144 0	Carron Co.	£68 8
Falkirk Iron Co.	129 4	McDowell, Steven & Co., Limited	67 10
J. Grundy	88 4	The Coalbrookdale Co., Limited*	60 6
Yates, Haywood & Co.	80 0		
The Hope Foundry Co.	72 0		

* Recommended for acceptance.

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	The Bennet Furnishing Co.	H. Bouneau.	T. Cruwys.	G. M. Hammer & Co.	Illingworth, Ingham, & Co.	J. H. W. Martin.
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Tapering blocks, 3 ft. 3 in. by 3 in. by 1½ in., fixing complete (each)	0 4	0 6	*1 0	1 0	*0 7	0 8½
Tapering blocks, 3 ft. 3 in. by 4½ in. by 1½ in., fixing complete (each)	0 5	0 9	*1 0	1 2	*0 8	0 10½
Tapering blocks, 3 ft. 3 in. by 6 in. by 1½ in., fixing complete (each)	0 6	0 11	*1 0	1 4	*0 10	0 12½
Tapering blocks, 3 ft. 3 in. by 9 in. by 1½ in., fixing complete (each)	0 7	1 2	*1 9	1 8	*1 3	1 3
Tapering blocks, 3 ft. 3 in. by 12 in. by 1½ in., fixing complete (each)	0 8	1 6	*1 9	2 0	*1 8	1 6

	The Bennet Furnishing Company.	H. Bouneau	T. Cruwys.	Foster, Cooper & Foster.	G. M. Hammer & Co.	Illingworth, Ingham & Co.
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No. 1. Time-Table frames (complete) .... per doz.	..	2 14 0	2 17 0	..	3 9 0	*2 11 0
No. 2. Do. do. .... ,,	..	4 1 0	2 11 0	..	2 14 0	*2 5 0
No. 3. Do. do. .... ,,	..	4 10 0	2 17 0	..	3 0 0	*2 14 0
Long arms .... ,,	..	4 16 0	2 8 0	..	3 6 0	*1 15 0
Towel rollers .... ,,	1 14 0	2 11 0	2 5 0	*1 8 0	1 16 0	1 15 0

	S. Chadwick.	T. & W. Farmiloe.	G. B. Kent & Sons.
	£ s. d.	£ s. d.	£ s. d.
Distemper Brushes (9 oz.) per doz.	*1 5 0	1 6 0	4 0 0
Varnish Brushes (No. 1-c) per doz.	*0 17 0	1 0 0	1 12 0
Sash Tools (No. 6) per doz	*0 4 0	0 5 0	0 7 0

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